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Cover Picture: A Girl from Himachal Pradesh, India
(See: *Early Indo-Aryan Social Structure*)

AN ETHNOHISTORY OF AMERINDIANS IN GUYANA

W.EDWARDS and K. GIBSON

The Amerindian population of Guyana numbers approximately 31,000 and their communities are scattered throughout the country (see map).

Geographically, Guyana can be divided into the following four natural belts.

- (i) the coastal or alluvial belt
- (ii) the hilly sand and clay belt
- (iii) the highland region
- (iv) the savannahs.

The coastal or alluvial belt extends inwards from the Atlantic seaboard to a distance which varies from 10 miles to 40 miles.

Immediately south of the coastal belt is the hilly sand and clay area. This area extends from the Pomeroon river inland to the Mazaruni river as far south as Apoteri and then eastwards to the Corentyne river. It is a densely forested area of undulating land with altitudes varying from 40 feet to 400 feet.

Behind the sand and the belt is the highland region, an area of forest-covered mountains. The mountain ranges in this belt are the Imataka mountains in the North West District, the Pakaraima range in the west of the country (the highest point of which is Mount Roraima (9,095 feet) on the Guyana-Venezuela-Brazil boundary line), the Kanuku range in the south of the country (running from east to west within a few miles of the Brazilian border) and the Acarai range which extends along the southern boundary between Guyana and Brazil. The fourth natural region is the savannahs in the south-west of Guyana. The Rupununi savannahs, as they are called, are divided by the Kanuku mountains into the North savannahs and the South savannahs. (1)

The coastal belt is at the present time by far the most developed area of Guyana and most of the country's population of approximately 815,000 people is concentrated there. Partly

(1) The geographical information given above was summarized from Cummings 1970, and *Report by the Amerindian Lands Commission* 1969.

Henceforth the *Report by the Amerindian Lands Commission* will be referred to as *Report*.

for this reason the country is sometimes divided into two main areas, viz: The coastal region and the hinterland or interior region. The latter area includes the hilly sand and clay belt, the mountain areas and the Rupununi savannahs.

Amerindian tribes are mainly found in the hinterland. Akawaio, Arekunas, Caribs, Makushis, Patamunas, Wapishanas and Wai-Wais are the interior tribes, while Arawaks and Warraus are the coastal tribes. The Arawaks at present comprise the largest tribe with approximately 6,300 members and the Wai-Wais are the smallest, numbering about 170. There is only one Wai-Wai community in Guyana, located at Konashen in the extreme south of the country.

The Coming of Amerindian Tribes to Guyana

The Amerindian population of Guyana is usually divided by anthropologists into three tribal families, viz: Arawakan, Cariban and Warrauan. (2) The Arawakan stock in Guyana comprises two tribes: the Arawaks (Lokono) and the Wapishanas. There are six Cariban tribes viz: the Akawaio, Patamunas, Arekunas, Makushis, Caribs and Wai-Wais. The Warrau tribe is the only representative of the Warrauan group in Guyana.

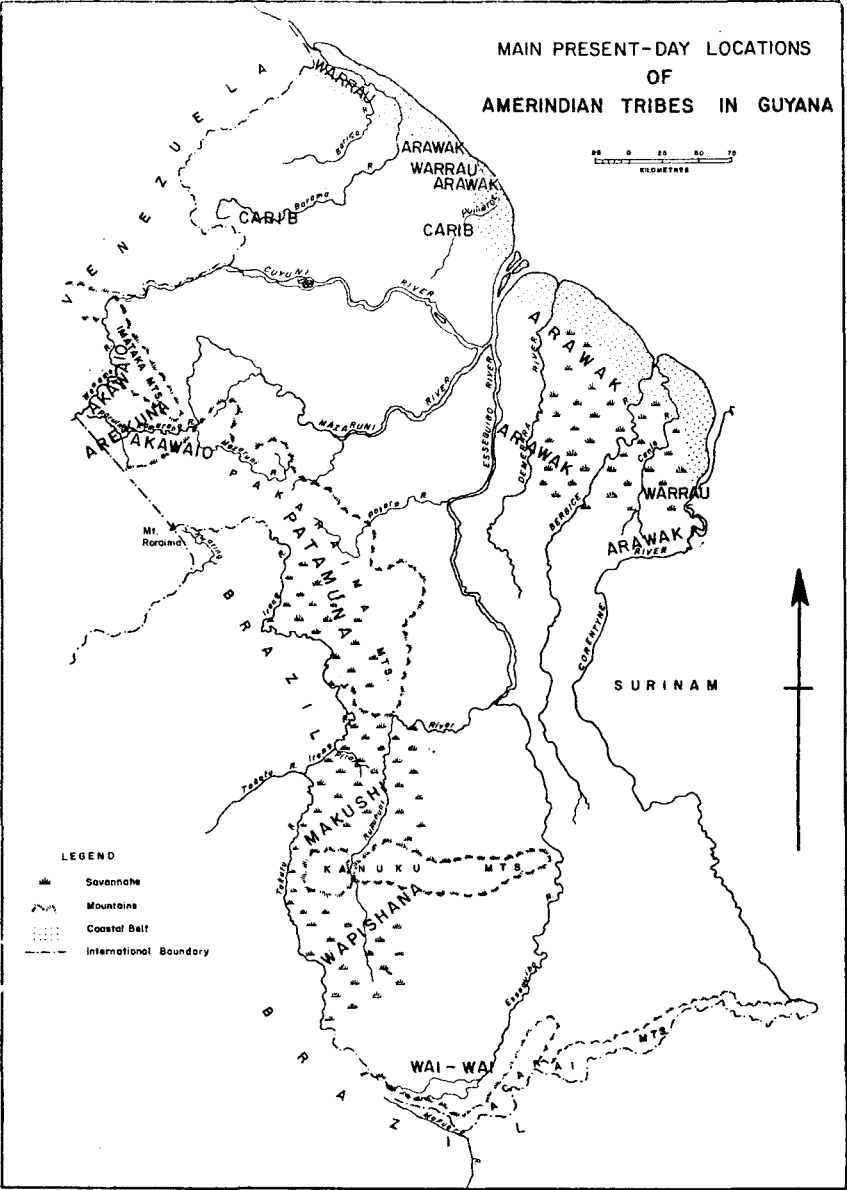
Archaeological and anthropological scholars are not agreed on the question of whether the Arawak, Carib or Warrau were the first inhabitants of what is now Guyana. According to Mason (1950:252) "the general feeling is that they (the Warrau people) preceeded the *Carib* and *Arawak* in the Orinoco Delta and Guiana Coast." The available evidence strongly suggests that Warraus have been living in the Orinoco Delta area for a very long time and are probably the modern descendants of marginal peoples who lived in the Guiana area (3) before the advent of people practicing the tropical forest culture. (4)

Wilbert is one of the scholars who supports the view that

(2) These are family labels which designate "widespread peoples, each with great linguistic similarity and some cultural homogeneity, but lacking any political unity" (Steward 1944:6).

(3) For ethnological purposes the area which is considered to comprise the Guianas is bounded by the Atlantic Ocean and the Orinoco and Amazon rivers (Gillin 1945:799)

(4) Marginal peoples were food-gatherers and lacked pottery, whereas agriculture and pottery are two characteristics of the tropical forest culture.



Warraus descended directly from people with marginal cultures. He hypothesises (1972:67) that "the Warao (5) are one of the few Meso-Indian (6) peoples of South America." Wilbert supports this position by claiming (1972:66) that the Guyana Warraus lacked agriculture until the 1860's.

Support for Wilbert's position has recently come from Durbin (1977:34). Durbin explains the existence of isolated tribal groups in the northern Guiana area by suggesting that "isolated northern groups such as the Warao. . . . would have been the original inhabitants of the Guianas before the Arawaks replaced them." If indeed the Warrau have survived from much earlier times then it is certain that the uniqueness and relative inaccessibility of the swamps of the Orinoco Delta helped protect them from other Amerindian tribes and later from Europeans. Most of the Warraus in Guyana live in the North-West region which lies east of the Orinoco Delta and which in many ways is physically similar to the latter area.

The Warrau have been located in their present physical environment long enough to have evolved certain cultural characteristics which help them to cope with the difficulties of their habitat. One such characteristic is the exceptional skill possessed by the Warraus in boat building. Boats are, of course, vitally necessary for moving about the watery wastes of the Orinoco Delta. In fact the word 'Warrau' means "boat people (Wilbert 1972:66).

Another important Warrau cultural characteristic concerns their diet. The ancient Warraus cultivated the habit of eating the starchy pith of the ite palm (*Mauritia flexuosa*), a species of palm that grows abundantly in the swampy soil of the traditional Warrau habitat. Wilbert (1972:82) points out that the latter form of nourishment "represents the survival of a formerly more common tradition, reaching back into the remote prehistoric past and perhaps pre-dating the first entry of the Warao into the Delta."

Modern Guyana Warraus do not usually eat the ite pith by itself as food but as Kirchoff (1945:870) points out, some Barima river Warraus make cakes with a mixture of bitter

(5) Other synonyms of "Warrau" are Waraw, Warau, Worrow, Uaraw, Guarau, Uarauno, Waraucti, Araote, Tivitiva (Mason 1948:252).

(6) Wilbert uses the terms mesolithic and neolithic as being roughly equivalent to marginal and tropical forest cultures respectively.

cassava, greenheart seeds and its pith.

The Guyana Warraus are mainly found in the lower reaches of the main rivers of the North-West District as well as in the lower Moruca and Pomeroon rivers. Some Warrau groups are also found deeper inland. One such group is found at Orealla, 56 miles up the Corentyne river (*Report* 1969:146).

Most historians who have written on the subject propose that the Arawak preceded the Carib to the Guianas. The hypothesis is that before migrating to the Guianas, Arawak people lived in the area immediately south of Orinoco river, generally in the Orinoco/Rio Negro region. By the time they began moving northwards into the Guianas, the Arawak had evolved the tropical forest culture. In the Guiana area, the Arawak (according to this hypothesis) displaced the marginal tribes. The Arawak continued pushing north, eventually reaching the West Indian islands where they displaced the mesolithic Ciboney peoples. (See *Amerindian Integration* 1970:3). Some writers even speculate that the Arawak went as far north as Florida.

The view that the Arawak migrated to the Guianas from the Orinoco/Rio Negro area is strongly supported by the fact that in the latter area and in the Amazon basin there are large concentrations of Arawakan type languages. (See Roth 1911; Mason 1950; Rouse 1945).

Although the above theory on the migratory history of Arawak people is the most widely held one, it is by no means the only view. Paul Radin (1924), for instance, has a quite different theory. He hypothesises that the Arawak are descendants of people who at an earlier period in their history lived in North America. Radin claims, in support of his thesis, that Arawak culture is similar in some particulars to the culture of Indians now living in southern areas of the United States. Radin speculates that to reach the Antilles and South America the Arawak migrated south into Mexico and then east into the Antilles. Later, however, they were forced to migrate to South America when Carib peoples reached the Antilles.

Radin dates the arrival of the Arawak in South America at around 1300 A.D. According to him, the Arawak probably sailed up the Orinoco and then down its south-eastern tributaries to the Rio Negro. The large number of Arawak speaking tribes along the Rio Negro (until the latter river meets the

Amazon at Manaus) is, according to Radin, the best evidence that this was the route taken by the Arawak. Following this line of argument, the hypothesis is that from the Rio Negro and the Amazon the Arawak were able to spread to other areas. Therefore the Arawak, who were being displaced by the Carib in the Lesser Antilles, became conquerors and enslavers of the simpler tribes of the Guianas and surrounding areas.

Interesting though Radin's speculations are, he seems not to have convinced any of the leading authorities, and the opinion expressed by Roth, Mason and Rouse that the Arawak are South American in origin is the generally accepted position.

The Arawak have now become extinct both in the Lesser and Greater Antilles. Their present non-existence in the Lesser Antilles is the result of their displacement by the Carib before the Europeans came. The advent of Europeans prevented the Carib from pushing the Arawak out of the Greater Antilles. However, the Arawaks eventually became extinct in the Greater Antilles partly because of physical and psychological hardships suffered under the repartimiento system and partly as a result of inter-marriage with Europeans.

The possibility that some Arawak had migrated to Florida is mentioned by Roth (1915:151) and Rouse (1945:519). According to Roth, some old Indians in Cuba told Ponce de Leon that a group of Arawak had migrated to Florida (at about the same time as the discovery of America) in search of the fountain of perennial youth. Rouse claims that the Arawak who went to Florida were led by a chief known as Sequene. The party is said to have included the chief's son Carlos. Rouse also informs us that the group reputedly founded a town called Abaibo somewhere in Southern Florida. These Arawak established control over the original inhabitants of the region and, according to Rouse (1945:519), they "even had some kind of relations with the Spaniards." The fate of these Arawak is unknown. At the present time no Arawak are found in North America.

Most writers claim that the Carib are of South American origin and that they started moving north subsequent to the northward migration of the Arawak. Mason (1950:226) suggests that the point of origin of the Carib peoples is the area bounded by the Xingu and Tapayoz rivers in Brazil i.e. a region south-east of that occupied by the Arawak before latter started

treking north.

Radin (1942) also locates the Carib in the Xingu/Tapayoz region at some point in their history but he feels (1942:50) that their original home might have been an area "north of the Amazon and in the Guianas." In any case, according to Radin, the North Amazon/Guiana area is an older Carib habitat than the Xingu/Tapayoz area.

Radin (1942:52) is also of the opinion that the Carib were "in most parts of British Guiana . . . many hundred of years before the Arawak came there." Marshall Durbin (1977), too, placed the homeland of the Carib in the Guianas. He states (1977:35) "we would tend to place the homeland of the Caribs in the Guiana area of Venezuela, Guyana, Surinam or French Guiana but probably not in Brazilian Guiana." Durbin hypothesizes that the original homeland of the Carib was formerly inhabited by Arawak but that the "Caribs pushed the Arawaks north into the Antilles, to the West, and deep into southern Brazil." Durbin suggests linguistic evidence to support his view that the Caribs in the Xingu region migrated there from a more northern homeland. Durbin, however, admits that he cannot as yet place the original homeland of the Carib more precisely. This could mean that Radin's confidence that Carib were in British Guiana before Arawak might be premature.

James Rodway (1912) is also sceptical of the theory that the Arawak came to Guyana before the Carib. Rodway claims that "the Arawaks informed the Spaniards that the Caribs were the original inhabitants and that they (the Arawaks) came along the coast and at first were friendly, but finding these fierce people to be cannibals they quarrelled and fought."

The question whether the Arawak came to Guyana before or after the Carib is clearly not yet decisively settled.

At the time of European contact with the Carib peoples (first through Columbus) the Carib had begun to make incursions into the islands of the sea now named for them. (7) Rouse (1945:547) points out that by this time the Carib had succeeded in conquering all the Lesser Antilles (and probably also the north-eastern part of Trinidad), exterminating

(7) The Carib people call themselves 'Calina' or 'Caripuna'. Also Calino, Calinago, Carinya, Carina — and it is this term which was corrupted by Columbus to 'Caribales' and later to Carib. The word 'cannibal' is also derived from this source (see Roth 1924:725-26; Rouse 1945:549).

the Arawak men and capturing their women. Rouse claims, too, that the Carib had also begun to conduct raids upon the Arawaks in the greater Antilles, but there is no evidence that Caribs had settled anywhere in that area, except for a part on the eastern end of Puerto Rico.

There are still Caribs in the West Indies today. They managed to evade the Spaniards as the latter did not attempt to settle the Lesser Antilles because no gold was there. In the seventeenth century the British and French began to colonize the Lesser Antilles in the process exterminating or driving the Carib from these islands. The Carib were not driven from the islands of Dominica and St. Vincent. The Carib in these latter islands were used by the British and French for attacks on each other's West Indian colonies.

It is suggested by Roth (1924:726) and Brett (1868:459-60) that the Carib who fled from the Lesser Antilles probably settled along the coast of the Guianas.

At present the few Caribs who reside in the West Indies live primarily on a reservation in Dominica. There are also some 'black' Carib or Garif who lived in Belize and in the Republic of Honduras, Central America. Rouse (1945:548) gives the historical circumstances surrounding the Black Carib. He claims that in 1675 a cargo of negro slaves was shipwrecked off St. Vincent. These negroes intermarried with the Carib and this mixed group became very hostile towards the Europeans. In 1795 the English moved the Black Carib from St. Vincent to an island known as Balliceaux and then to Ruatan, an island near the coast of Honduras. The Black Carib then migrated to Honduras. Black Caribs are now found in Belize and in the Republic of Honduras (see Brett 1868:459; Rouse 1945:547).

Arawakan Tribes of Guyana

There are two Arawakan tribes in Guyana viz: the Arawaks (Lokono) and the Wapishanas. The Arawaks inhabit the coastal areas of Guyana. The available evidence suggests that the Lokono are the direct descendants of the Arawak people who first reached the Guyana area; the word 'Lokono' means "the people."

The Wapishana people live on the south savannahs of the

Rupununi region of Guyana. Both the Lokono and the Wapishanas belong to the north Amazon sub-family of Arawakan peoples but their respective languages are classified in different language groups. The Lokono language belongs to the *Arawak* language group while Wapishana is classified as being a language in the *Rio Branco* language group.

Wapishanas are fairly recent inhabitants of Guyana. Farabee (1918:13) suggests that Wapishanas were seen around 1783 by Dutch traders who were making their way up the Essequibo river to the Rupununi savannahs. Ten years later a map drawn by Nicholas Horstman (one of the traders) as he travelled across the country was published. At that time the Wapishanas occupied all the Brazilian savannahs south of the Takutu and Uraricuera rivers.

During his explorations in 1835 Robert Shomburgk found Wapishanas occupying the area between the Essequibo River on the east and the Rio Branco river on the west. At that time the Makushis were located north of the Wapishanas (having been driven northwards by the latter) and the Atorais were located south of the Wapishanas. The Parauianas were at that time living on the west of the Wapishanas. In the *Report* (1969: 74) it is stated that the Wapishanas reached their present area of occupation in 1810. Quoting from Hills, (8) The *Report* reads: "It seems highly probable that the Wapishanas were in fact a smaller part of a large group of Arawak speaking Indians who migrated northwards from the Rio Negro, up the Rio Branco, finally moving across what is now a political boundary into the southern savannahs towards the end of the 18th century."

By 1918, according to Farabee (1918:13), the Wapishanas had absorbed the Atorais by intermarriage and had taken possession of all the south savannahs. The Wapishanas had absorbed the Parauianas by 1918.

Cariban Tribes of Guyana

We pointed out above that there are five Carib tribes in Guyana and that it is the general view (but not the only view)

(8) The reference given for Hills in the *Report* is: R.L. Hills, *Ethnographic Notes on Amerindian Agriculture*, McGill University Savannah Research Project-Series 9. (N.D.)

that the Carib peoples came to Guyana after the Arawak. It is not clear from the records whether the Akawaio group of Carib peoples or the 'true' Caribs or Carinyas were the first Cariban inhabitants of Guyana.

The 'true' Caribs (a misleading term coined by Im Thurn 1883:163), according to Schomburgk (1913:129), say that their forefathers had immigrated from the Orinoco. This tribe has been stereotyped as the most proud, aggressive and warlike of the amerindian groups in this country. (9) Today, some of the remnants of this once numerous tribe occupy the Barama river headwaters above Towakaima. Carib settlements are also located at the Barima river head and "towards the Cuyuni river" (*Report* 1969:200). A few Caribs are also found scattered in coastal settlements in the North West District (e.g. at Walaba and Manawarin) and on the Pomeroon river.

At the time of European contact the Caribs lived primarily along the coastal belt. From the beginning of the 18th century (10) the Amerindian tribes, particularly the Caribs and the Akawaio, began to move into the interior since many areas of the coastland were being used as plantations. This migration inland of Carib and Akawaio Amerindians explains why on Walker's map of the coastal belt of Guyana (drawn in 1798) the Amerindian settlements shown were primarily Arawak. The only non-Arawak community indicated was an Akawaio settlement on the Berbice river.

Another reason for the movement south was that the Caribs, the Akawaio and (to a lesser extent) the Arawaks were reputedly engaged in hunting and capturing other Amerindians for sale as slaves to the Europeans and also in tracking down runaway negro slaves and exterminating negro refugee camps (Drummond 1977:79). With the end of negro slavery, the Caribs began to move further inland partly for fear of the ex-slaves and partly to search for a new market for the Amerindian slave-trade, a market which they found in Brazil. By this period the once numerous Caribs had dwindled to about 300 (Bennett 1866:86). Today the Carib tribe is one of the smallest Amerindian groups in Guyana. Caribs today live in relative poverty

(9) The stereotype of the 'warlike' Carib has been challenged by several writers including Basso (1977:18) and Lee Drummond (1977:76-88)

(10) The relations between Amerindians and Europeans had become more friendly by this time.

and eschew western habits. These characteristics probably influenced Peberdy to describe the Barama river Caribs as “the most impoverished and traumatic Aboriginal tribe” he had met in the country (*Report* 1969:200). (11)

Although the Caribs and Akawaio belong to the Northern sub-family of Cariban peoples, linguistically they belong to different language groups. (12)

Verril (1917:106) speculates that the Akawaio “may be classified as British Guiana Indians, the only tribe in fact which is indigenous and confined to the colony.” This is a very large claim and Verril’s evidence is not conclusive. It is probably significant that we have not been able to find any information in the literature on Akawaio migration into Guyana from other countries. The only migration information about Akawaio we have found concerns their movement within Guyana. (See Edwards 1977:7). We have noted that there are groups of Akawaio living along the Wenamu and Upper Cuyuni rivers on the Guyana side of the Guyana-Venezuela border. (See frontpiece of Brett 1868; Armellada 1944:5; *Report* 1969:130).

There is also a group of Akawaio living on the Kwating or Cotinga river in north-western Brazil (in the triangle formed by the Guyana-Brazil-Venezuela boundary lines). (13) It is likely that the Kwating river was situated in British Guiana (now Guyana) until the delineation of the Guyana-Brazil border in 1905. The border between the countries was in dispute for a considerable time but the matter was settled by arbitration in

(11) The reference given for Peberdy is: P.S. Peberdy, “Report of a Survey on Amerindian affairs in the Remote Interior”. (N.P.). (N.D.)

(12) The Carib language is classified by Mason (1950:227) as belonging to the *Coastal* group and specifically to the *Mainland* sub-group. The Akawaio language, on the other hand, belongs to the *Central* language group and the *Roraima* sub-group. Also in the Roraima sub-group are Arekuna, Makushi, and Patamuna. This means that Akawaio and the latter tribes speak dialects of the same language system. Wai-Wai, another Cariban language spoken in Guyana, is also a member of the Northern sub-family but belongs to the *Amazon* language group and specifically to the *Eastern* sub-group of that language variety. Durbin (1977:35, (table 2.2)) places Carib (‘Galibi’ in his terminology) and other Guyana Cariban languages in the *Northern* language family. Galibi is classified as a separate sub-group and Arekuna, Akawaio, Makushi, Patamuna and Wai-Wai are grouped in the *East-West* sub-group.

(13) This latter piece of information, obtained from conversations with Akawaio of Waramadong village, Upper Mazaruni, is supported by an observation made by Henfrey (1964:127-28) that the Patamuna Indians learnt about the Hallelujah religion from Akawaio who live on the Kwating river.

1905 (see Carpenter 1970:36). The Kwating river, however, is very close to Guyana territory.

The fact that Akawaio can be found as far west as the Guyana-Venezuela boundary and as far south as Brazil could be due to their nomadic nature or possibly because they were well-known for their trading activities. Gillin (1945:850) tells us:

"The Acawai (14) were everywhere known as traders and made extensive expeditions from Manaos through the interior to the coast and the mouth of the Orinoco River. In colonial times they made their trading experience available to the Dutch and became the principal slave hunters and traders of the interior."

At the present time, Akawaio are mainly located in the Upper Mazaruni area. Akawaio communities are also located in the Middle Mazaruni and on the Barama, Upper Pomeroon, Demerara, Wenamu and Upper Cuyuni rivers.

For the Patamunas also we have been unable to find any reference in the literature on their migration into Guyana. Both Walter Roth (1924:737) and Gillin (1945:810) mention that Patamunas were referred to by Hillhouse in 1832 as being "mountaineers," and that they were encountered by Dance in 1881 between the Cumaparu Rapids and the Demerara river. The citation by Hillhouse is the earliest reference we have found to the Patamunas in Guyana.

The Patamunas are probably a branch of the Akawaio tribe (see Verril 1917:107-8; Roth 1924:810; Gillin 1945:810), and this could explain the absence of recorded information on their migration into Guyana. The similarities between the Patamunas and the Akawaio have been alluded to by Henfrey (1964:106). Among the similarities he noticed is that "like the Akawaio, many of them (Patamunas) had cassiribinas tattooed on their faces and coloured ornaments and beads around their ankles and wrists." In our field work we, too, have found many cultural similarities between the Patamunas and the Akawaio, and these observations are persuasive enough to encourage us to support the view that the Patamuna are a branch of the Akawaio.

(14) Synonyms for 'Akawaio' are Acawai, Acawoio, Wacawai, Waica, Waika, Capohn, Kapohn, Capong, Kapong (Gillin 1945:804).

Patamunas are at present found in the Northern Pakaraima mountains from the Ireng river in the west to the Kaieteur escarpment in the east (*Report* 1969:115). Their main villages are at Paramakatoi and Kurukubaru. Oral tradition has it that the Patamunas once lived in lowland forest areas before moving into the mountainous Pakaraima region. This would give informal support to the suggestion that the Patamuna and the Akawaio were once one tribal group. Akawaio still live in lowland forested areas.

Unlike the case of the Akawaio, there is recorded evidence of the Makushis migrating into Guyana, possibly from the banks of the Orinoco. Brett (1868:498) reports Schomburgk as identifying the Makushis with the ancient "Orenoque-Poni" who lived on the banks of the Orinoco and who were encountered by Sir Walter Raleigh in 1595 while the latter was searching for El Dorado. By 1778, according to Gillin (1945:808), the Makushis were settled on both sides of the Essequibo river. Gillin also claims that in 1787 Portuguese reports placed the Makushis in the region of the Ireng, the river which runs along the western border between Guyana and Brazil and that in 1832 Makushis were living on the Pirara river in Guyana. These two latter claims fit well with Hills's (*Report* 1969:94) belief that the Makushis arrived in Guyana towards the end of the 18th century. At present Makushis live on the central Rupununi savannahs (north of the Kanuku mountains) and on the southern Pakaraimas. There are also a few Makushi communities in what are predominantly Patamuna areas. In the latter areas the Makushis are regarded as intruders by the Patamunas.

Farabee (1918:13) claims that the Makushis once inhabited the southern Rupununi savannahs but that they were pushed northwards by the invading Wapishanas during the latter part of the 18th century and in the early 19th century. There are still pockets of Mukushi settlements in the southern Rupununi savannahs. Two such settlements are at St. Ignatius and Moco-Moco. There are also Makushi settlements in Brazil. Gillin (1945:808) places the entire tribe as living "between the Ireng, Takutu and Rupununi rivers in the borderland between Guyana and Brazil."

There is only one Arekuna settlement in Guyana at the present time and that settlement is at Paruima on the Kamarang

river not far from the Guyana-Venezuela border. The Arekunas (who call themselves 'pemong') formerly occupied the Uaupes river drainage in the Venezuela-Columbia area before moving to their present and main abode "the Gran Sabana area of Venezuela from the Kamarang headwaters to Mount Kuke-naam" (*Report* 1969:130). Various scholars including Brett (1868), Im Thurn (1883) and Chubb (1916) (15) claim that the Arekunas were living in Guyana during the 19th century. The claim is based partly on the fact that during that period some Arekunas were settled in the Roraima area. There are, however, problems with this claim since the area which the Arekunas occupied was in dispute between Guyana and Venezuela for some time. In fact it was not until 1898 that the boundary issue was settled by arbitration. (16) As a result of the uncertainty of the position of the boundary line, scholars were at times placing the entire Mount Roraima area in Guyana (Chubb 1916:xxx) or within Brazil (Im Thurn 1885:256).

Sir Robert Schomburgk who surveyed the country in 1840 in an attempt to fix the Guyana-Venezuela boundary has probably made the most helpful statement on the issue. He wrote that the Arekunas "who inhabit the mountainous regions at the headwaters on the Caroni. . . are powerful tribe but are more properly the inhabitants of the Venezuelan territory; about 150 live on the south-western tributaries of the Mazaruni" (Schomburgk 1850:50). This information would suggest that around 1840 there was a group of Arekunas in what is now Guyana since all the south-western tributaries of the Mazaruni terminate in Guyana.

At present there are about 500 Arekunas living in Guyana on Paruima mission in Guyana. This group did not settle in Guyana until the 1920's when Seventh-Day Adventist missionaries working among the Arekunas in Venezuela were expelled from that country. The missionaries left Venezuela and settled in the Paruima area with their Arekuna followers (see Edwards (ed.) 1977; *Report* 1969; Pierson and Emmerson 1953).

Fock (1963:5) speculates that when Robert Schomburgk

(15) Chubb's work reports on his expedition into the savannah regions of Guyana in 1894.

(16) For more information on the boundary issue between Guyana and Venezuela see Menezes (N.D.) and Government of Venezuela (1898?).

made contact with the Wai-Wai in December 1837, he was probably the first non-amerindian to visit them. Schomburgk found the Wai-Wai living in one village north of the Acarai and in two villages south of the latter mountain range. The northern village was situated on a tributary of the Essequibo River in Guyana, while the two southern villages were located on the Mapuera river in Brazil. Schomburgk (1931:115) says of the Wai-Wai:

“The number of Woyawais whom I met on my travels, amounted to some 150, they are of medium height, their skin is lighter than that of the Tarumas, in their general appearance and language they resemble the Makushis a good deal. The Woyawais are great hunters and celebrated for their dogs. In appearance they are generally dirty, and, in this, even to a greater degree than the Wacawais, who in this respect are notorious throughout the country.”

According to Fock, Wai-Wais were visited by one Coudreau in 1884. Coudreau found this quite numerous tribe on the southern slopes of the Acarai along the upper reaches of the Mapuera River.

Probably around the beginning of the 1890's the Wai-Wais were attacked by a wild tribe, possibly the Cara (Fock 1963:7). Many of the Wai-Wais were killed. Some fled to the north of the Acarai (and into Guyana) and a few fled to Mount Piaufon in Brazil. In 1913 when Farabee visited the Wai-Wai he found the main body of the tribe living in Brazilian territory but there was also a small group of approximately 8 Wai-Wais living in Guyana on the Upper Essequibo River. In 1925 the latter group of the Wai-Wai was visited by Walter Roth who found that their number had risen to over 100. It seems likely that the Wai-Wais of the Mapuera (in Brazil) had moved north. If this was the case then it is reasonable to assume that the northward migration was facilitated by the near extermination of the Taruma tribe by an influenza epidemic. (17) This made the habitat of the Tarumas available to the Wai-Wais. The Tarumas had occupied an area of reputedly good agricultural soil.

Between 1933 and 1938 the Guyana Wai-Wai moved deeper into Guyana probably, according to Fock (1963:9), to avoid contact with personnel working for the Boundary Commission.

(17) The Tarumas were extinct by 1926 (Guppy 1958:41).

By 1937 the Wai-Wai, about 50, were settled at Mauika village, upper Essequibo. By 1967, the Wai-Wai population in Guyana had risen to about 528. According to the *Report* (1969:19) this notable migration from Brazil was "induced by amenities provided by the Unevangelized Fields Mission at Konashen." At present there are only about 170 Wai-Wais in Guyana as the rest have returned to Brazil (Sugrim 1977:10). This migration south has been due to the decision of the Unevangelized Fields Mission to remove their mission from Guyana to Brazilian territory, and most of the Wai-Wais have followed the missionaries.

REFERENCES

- Amerindian Lands Commission
 1969 Report by the Amerindian Lands Commission. Georgetown.
- Armellada, R.P. Cesareo de
 1943 Gramatica y Diccionario de la Lengua Pemon: (Arekuna, Tau-repan, Kamarakoto): (Familia Caribe), vol. 1. Caracas: C.A. Artes Graficas.
- Basso, Ellen B. (ed.)
 1977 "Introduction: The Status of Carib Ethnology." In Carib-Speaking Indians: Culture, Society and Language. Anthropological Papers of the University of Arizona, No. 28. Tucson: University of Arizona Press.
- Bennett, George W., comp.
 1866 An Illustrated History of British Guiana.
- Brett, William H.
 1868 The Indian Tribes of Guiana. London: Bell and Daldy.
- Carpenter, Allan and Tom Balow
 1970 Guyana: Enchantment of South America. Chicago: Regenstein.
- Chubb, Charles
 1916 The Birds of British Guiana, vol. 1. London: Bernard Quaritch.
- Cummings, Leslie P.
 1970 Description of Guyana. Rev. ed. London: Collins.
- Drummond, Lee
 1977 "On Being Carib." In Carib-Speaking Indians: Culture, Society and Language. Ed. Ellen B. Basso. Anthropological Papers of the University of Arizona, No. 28. Tucson: University of Arizona Press.
- Durbin, Marshall
 1977 "A Survey of the Carib Language Family." In Carib-Speaking Indians: Culture, Society and Language. Ed. Ellen B. Basso.

- Anthropological Papers of the University of Arizona, No. 28.
Tucson: University of Arizona Press.
- Edwards, Walter F., (ed.)
1977 *An Introduction to the Akawaio and Arekuna Peoples of Guyana.* Georgetown: Amerindian Languages Project, University of Guyana.
- Farabee, William Curtis
1918 *The Central Arawaks.* Netherlands; Anthropological Publications. Reprint 1967.
- Fock, Niels
1963 *Waiwai: Religion and Society of an Amazonian Tribe.* Copenhagen: The National Museum.
- Gillin, John
1945 "Tribes of the Guianas." In *Handbook of South American Indians*. Ed. Julian H. Steward, vol. 3. U.S. Bureau of American Ethnology, Bulletin 143. Washington: Government Printing Office.
- Government of Venezuela
1898? Brief submitted by Venezuela to the Commission appointed to "Investigate and Report upon the true Divisional Line between the Republic of Venezuela and British Guiana." (Caracas?).
- Henfrey, Colin
1964 *The Gentle People: A Journey among the Indian Tribes of Guiana.* London: Hutchinson.
- Im Thurn, Everard F.
1883 *Among the Indians of Guiana.* New York: Dover.
1885 "Mount Roraima." *Timehri*, 4, Part 4, 256-267.
- Kirchoff, Paul.
1945 "The Warrau." In *Handbook of South American Indians*. Ed. Julian H. Steward, vol. 3. U.S. Bureau of American Ethnology, Bulletin 143. Washington: Government Printing Office.
- Mason, J. Alden
1950 "The Languages of South American Indians." In *Handbook of South American Indians*. Ed. Julian H. Steward, vol. 6. U.S. Bureau of American Ethnology, Bulletin 143. Washington: Government Printing Office.
- Menezes, Sr. Mary Noel
(N.D.) "A Brief Survey of the Historical Background to the Venezuela-Guyana Boundary Dispute." University of London. Institute of Commonwealth Studies. Postgraduate Seminar.
- Ministry of Information and Culture
1970 *Amerindian Integration.* Georgetown.
- Pierson, Robert H. and Joseph O. Emmerson
1953 *Paddles over the Kamarang.* California: Pacific Press.
- Radin, Paul
1942 *Indians of South America.* New York: Greenwood Press. Reprint 1969.
- Rodway, James
1912 *Guiana: British, Dutch and French.* London: T. Fisher Unwin.

Roth, Walter E.

- 1911 "Old Time Indians: Their Manners and Customs." *Timehri*, No. 1; 62-75.
- 1915 *The Animism and Folklore of Guiana Indians*. New York: Johnson Reprint Corp. Reprint 1970.
- 1924 *An Introductory Study of the Arts, Crafts and Customs of the Guiana Indians*. Thirty-Eighth Annual Report of the Bureau of Ethnology (1916-1917). Washington: Government Printing Office.

Rouse, Irving

- 1945 "The Arawak." In *Handbook of South American Indians*. Ed. Julian H. Steward, vol. 4. U.S. Bureau of American Ethnology, Bulletin 143. Washington: Government Printing Office.
- 1945 "The Carib." In *Handbook of South American Indians*. Ed. Julian H. Steward, vol. 4. U.S. Bureau of American Ethnology, Bulletin 143. Washington: Government Printing Office.

Schomburgk, Robert H.

- 1840 *A Description of British Guiana*. London: Frank Cass. Reprint 1970.
- 1931 *Travels in Guiana and on the Orinoco (1835-1839)*. Trans. Walter E. Roth. Georgetown: Argosy.

Steward, Julian H. (ed.)

- 1944 "Introduction." In *Handbook of South American Indians*, vol. 1. U.S. Bureau of American Ethnology, Bulletin 143. Washington: Government Printing Office.

Sugrim, Kenneth

- 1977 "Some Historical and Demographic Information on the Amerindians of Guyana." *Bulletin of the Amerindian Languages Project*, 1;1.

Verril, A.H.

- 1917 "The Tribal Relationship of the Akawoias." *Timehri*, 4, No. 3, 107-112.

Walker, Capt. Thompson

- 1830 "A Chart of the Coast of Guyana: Comprehending the colonies of Berbice, Demerara and Essequibo." London: Published with corrections by R.H. Laurie.

Wilbert, Johannes

- 1972 *Survivors of Eldorado: Four Indian Cultures of South America*. New York: Praeger.

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ECOLOGY, ADAPTATION AND SPECIATION

ROGER PEARSON

Despite the fact that competition is one of the basic laws of evolution, the 1.6 million different species of life on this earth are bound together in an intricate network of interdependence. Plants extract energy from light by the process of photosynthesis and store this energy in organic material, without which animals could not exist. Animals, in turn, break down organic material to release carbon dioxide, and so help to maintain the chemical balance which is essential for the survival of plant life. The oxygen we breathe at this moment may have been manufactured by plankton as far away as Lake Baikal, where, as in Lake Michigan and so many other inland waters close to industrial centers, they may now be in danger of extinction as a result of industrial pollutants. All life on this planet may therefore be said to be a part of a single global ecological system — an ultimately interrelated collation of living organisms, sharing a single habitat, and locked into competitive and cooperative relations by an extremely complex network of symbiotic ties.

Within the framework of this larger global symbiosis, smaller natural regions reveal their own particular subpatterns of plant and animal life which are normally referred to as *ecological communities*. These, too, are semi-independent population systems, and indeed the most significant factor relating to ecological communities is that the level of population of any one species is intimately bound up with the population level of other species sharing the same habitat. For this reason, the main principle of ecology is that no one species will ever, under normal circumstances, overeat its food supply. I say “under normal circumstances” with care, because in reality the equilibrium is always moving, with new species evolving, expanding, and frequently replacing their rivals. The forces of evolution never stand still in the long course of the history of life.

Control Mechanisms

The reasons why overeating of resources does not occur are quite simple. In the first place there is a supply and demand

factor. In the case of predators, for example, when prey is plentiful, killing is easy and the number of predators will increase. When they increase, they will reduce the quantity of prey as a result of their heavier depredation, and killing will become more difficult so that the number of predators must fall off again. Moreover, the particularly heavy selection that the predators exert upon their prey will mean that only the better equipped of the prey will survive to reproduce. The next generation of prey may therefore be more difficult to kill than the previous generation.

If the weaker antelopes, for example, are eliminated, the next generation will be descended from the more healthy survivors. This in turn will tend to slow down the rate of predation, and it will be the less efficient predators that are squeezed out, so that the next generation of predators will tend to be more efficient. (1) Thus the evolutionary process will serve to maintain a moving balance between predators and their prey. This is not to say that a population could never be preyed upon until it was totally eliminated, but before that happens, the predatory population will generally fall off sufficiently to allow recovery of the prey, or else switch its attentions to an alternative source of food supply, thus taking some of the pressure off the more heavily depleted species.

A second mechanism also appears to come into operation if ecological imbalance persists. It is an axiom of modern zoology that there is an optimum density for all animal populations in a natural or feral condition and the ecological community will be in balance when each species maintains its appropriate optimum density. During the long evolutionary history of any complex life form, the entire glandular and neurochemical basis of behavior becomes adjusted to operate with maximum efficiency at the level of optimum population density. The secretion of adrenalin, for example, will vary

(1) This explanation of the evolutionary process has been challenged by some who argue that if it were true antelopes would eventually move with the speed of light. The fact is that the antelopes of today move far more rapidly than the first amphibians were capable of moving on land, and that this development has occurred in a surprisingly short evolutionary period. Furthermore, the survival of the antelope does not depend purely on speed. Other physiological needs have also to be taken into consideration which would render overadaptation in the direction of speed impracticable from a selective viewpoint long before the speed of light could be reached.

according to the distance that separates individuals from each other, and patterns of behavior will arise which will be adjusted to a given density of population and will have survival value at that density. A change of density, however, may trigger different glandular and chemical responses and can result in behavioral patterns which may be detrimental to survival. Thus an increase in population density far in excess of the normal optimum for that species may result in a state of stress. This condition may modify behavior to the point that some elements of the population set off in search of a less crowded environment. By this process a population that is locally successful and increases its numbers within its own territory may send out emigrants to invade and colonize neighboring territories. On the other hand, if the species is unable to do this — because it inhabits an island or because the neighboring territories are securely held by their present proprietors, or even because the neighboring territories do not provide the type of resources that this species needs — then as stress builds up so will deviant behavior.

In experiments with Norwegian wild rats, J. B. Calhoun (2) demonstrated that a variety of abnormal behavior patterns may develop when a population increases above its optimum density, each of which will have negative survival value and will therefore tend to reduce the population until it returns to the level of optimum density. Working with some six different populations of rats, Calhoun discovered that Norwegian rats have an optimum density under feral or natural conditions of 150 to a quarter acre. When the density of the rat population was increased to double this figure, various patterns of aberrant behavior developed, each of which was antithetical to reproduction or survival. The main patterns of aberrant behavior observed may be summarized as follows:

1. Some rats in these overcrowded communities appeared to develop hypersocial tendencies, seemingly obtaining accentuated satisfaction from close social contacts, refusing to eat except in the company of their companions.
2. Other rats became socially isolated and disorientated, although these rats retained a better physical condition

(2) J. B. Calhoun, "Population Density and Social Pathology," *Scientific American* 206, 2: 139ff. (1962).

than those which became hypersocial.

3. Many of the females began to reject the advances of the males.
4. Hypersexuality developed among some males, estrus females being pursued by packs of hypersexual males. This resulted in a high mortality rate among the females unable to escape the attentions of the males, and even attempts by the females to escape to burrows did not always discourage the efforts of the males to reach them.
5. Many females in the overcrowded community were unable to carry their pregnancies, successful reproduction becoming increasingly difficult for them.
6. After the birth of offspring, many females refused to feed their infants or else failed to fulfill other maternal functions.
7. Homosexuality appeared in some male groups.
8. Cannibalism became quite common among the males, newborn infants being the object of their attacks.

Calhoun's observations have been reinforced by parallel research with other animal communities. The obvious implication is that a substantial increase in population density far above the optimum, if not checked by other forces, will result in behavior that has negative survival value which in due course will tend to rectify the ecological imbalance. Some social scientists have suggested possible parallels in contemporary human society with antisocial, hypersexual, hypersocial, and homosexual tendencies especially marked in crowded urban communities. This speculation remains unsubstantiated at the present time. What is of significant interest is that most of these aberrant behavior patterns can be matched with the behavior of caged animals, so that there is the strong suggestion that any drastic interference with feral behavior may disturb animal behavior patterns in a more or less predictable manner.

Territoriality

Implicit in the concept of ecological communities, at least in so far as mammals are concerned, is the concept of *territoriality* — one of the most significant contributions made by zoologists to the study of anthropology during this century. The theory of territoriality assumes that more advanced living organisms will seek a regular and assured food supply, and that in the

case of the higher animals, these resources can be most conveniently secured when individuals or groups of individuals adopt a roughly defined territory for their own regular use. Under normal circumstances the proprietors of such areas tend to live out their lives contentedly within the general limits of their own "homeland," and will seldom enter neighboring territories except under special provocation such as drought, famine, or an internal population increase. (3) The territorial impulse is easy to understand. Animals born and bred in a particular locality become accustomed to finding their food there and will avoid other areas except under compelling reasons.

As members of an ecological community, territorial animals will, of course, share their territory with members of other species that are not dependent upon the same source of food. There is no tension within any ecological community providing the member species are not dependent upon identical resources, but many proprietors respond to a territorial imperative to resist invasions by members of their own or closely related species because such animals would be competitors for their food supply. When alien animals enter the territory but do not compete as rivals for the available food supply, there will be no reaction, but the appearance of a rival for the same food will provoke a defensive reaction. It has been repeatedly observed that many animals which do not show any strongly aggressive behavioral tendencies outside their own territory will become very aggressive inside their own territory when confronted by a rival for their own private food resources. It is almost as though the territory has become associated, in an almost Pavlovian way, with food. The appearance of possible food rivals in this territory sets up, maybe in a slightly milder way, something of the same aggressive action that would occur if the rival were to attempt to seize food from under the occupant's very nose.

Not all animals that are territorial in habit and customarily restrict their movements to their home ranges reveal a clear territorial imperative to defend their living space with tooth and claw. (4) Few of the more placid herbivores do this;

(3) Many cases have been recorded in which mammals have died from the effects of drought rather than leave their own territories.

(4) Robert Ardrey's *The Territorial Imperative* (New York: Atheneum Press,

but carnivores are often aggressive in the protection of their territories. Not only do many carnivores openly threaten intruders who enter their territories, but it has been pointed out that in some instances they may possess advantages which aid them in repelling such invaders — if, in fact, the invaders have the temerity to press their intrusion. The defenders will know the layout of their homeland better than the strangers, and if the defenders should have young offspring at the time of the intrusion, then in most higher species this too will intensify the ferocity with which they will challenge the advance of the invaders. To the extent that an inborn propensity toward the defense of the territory may exist in some species, the territorial imperative would have been favored by selection. Those animals which lacked this propensity would have been deprived of their living area and so would have been unable to raise progeny.

While no one would deny that the ancestors of living men may have been largely territorial in the sense that they probably kept to separate but possibly overlapping homelands, the extent to which they may have possessed an imperative territorial urge to defend these homelands is debatable. Possibly the answer is linked to the extent to which such early proto-humans were herbivorous or had become carnivorous.

Territoriality, in the simpler sense of local residence, with or without aggressiveness, serves an ecological purpose because it contributes to the demographic balance of communities by stabilizing populations at the optimum density. (5) The mating practices of some animals clearly reveal a territorial basis, as in the case of African ungulates such as waterbuck, gazelles, and springbok. The female Uganda kob (genus *Adenota*), for example, will not mate with any male that does not possess its own territory, and surplus males who are unable to obtain territories are left to congregate in all-male herds, in which they fail to reproduce.

1966) is challenging but inadequate. In particular, the role of aggression in territorial behavior is overemphasized, and the concept of territoriality should not be equated exclusively with militant behavior. In such cases territories can be lost and won by steady infiltration and competitive reproduction.

(5) The "optimum population" of any species in a given locality must not be regarded as rigid. If it were rigid, evolution would never take place. Instead the "optimum population" represents a center of moving equilibrium.

At any one time there will normally be a surplus of animals that have been unable to secure territories of their own. Most survive only provided they can secure a territory on the death of its proprietor or possibly by outright annexation. The wastage of lion cubs, for example, is around 50 percent, and only the healthier and better equipped usually survive to adulthood to take their place in the ecological community. It therefore follows that if animals are allowed to retain an adequate living area, reasonable depredations by hunters will not endanger their survival. Unless too severely pressed, their population will continue to expand up to the optimum density as determined by the available niches, but the reverse also holds true, for we may effectively exterminate a species by depriving it of its living area without actually killing any of the animals.

It is thus no accident that territoriality has developed among those animals — mammals and birds in particular — that possess the greatest potential for mobility. If whole populations of dominant animals were to wander unpredictably backward and forward in all directions, such behavior would disrupt the ecological order. The development of territoriality among the more mobile animals has helped to facilitate local ecological harmony as well as to prevent excessive intraspecies conflict for food. At the same time, local competition for food resources still exists under territorial conditions, and the necessary forces of natural selection still prevail. While territoriality does permit a degree of conflict, necessary for selection, in practice it tends to prevent the contest between members of the same species from becoming unbearable.

Territoriality thus plays a vital role in the evolutionary process in that it promotes demographic stability and thus prevents conditions in the ecological community from becoming chaotic. Life in the wild is not the disorderly “jungle” we often picture in our minds; there is a pattern of ordered relations that permeates the entire symbiotic fabric of organic interdependence. If any living organism has brought disorder into the organic world, it is man, not the feral predator. Man is destroying the ecological balance in his efforts to free himself from ecological controls, whereas the depredations of the wild carnivores take place strictly within the ecological system and serve to maintain, not to disrupt it.

Speciation

But territoriality also aids evolution in another way: it facilitates that continuous process known as *speciation* by which existing populations subdivide and evolve into new species. Speciation occurs whenever a population becomes divided into two or more genetically separate breeding isolates.

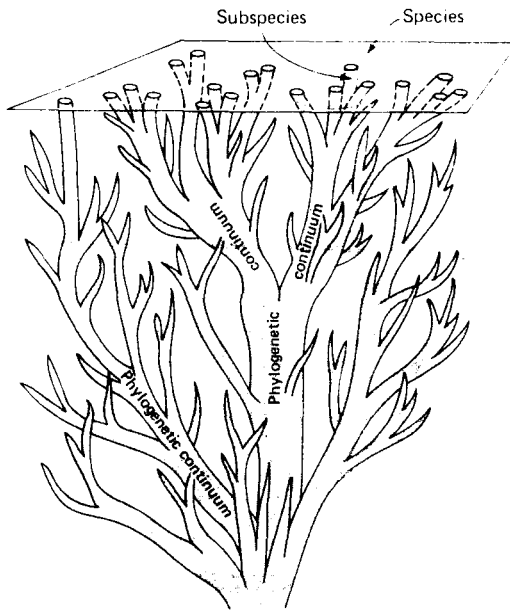
Evolution arises as a result of a continuous process of adaptation taking place in phylogenetic continua — in breeding populations, species, subspecies, races, and lineages. This process of continuous change has resulted in the formation of widely diverse *species*, populations whose members resemble each other but differ significantly from other populations and who can breed among each other but who have lost the ability to breed successfully with other living organisms.

Species should not be thought of as fixed and unchanging realities. Genetic systems are essentially “action” systems, constantly subject to modification, and even if rigidly segregated from all genetic admixture with other species or subspecies, no population will retain precisely the same genes through the generations. Mutations, natural selection, and genetic drift will inevitably bring about modifications, even though the rate of change may be so slow as to be hardly noticeable over hundreds of millions of years, as is the case with so many surviving unicellular organisms which have evolved only slightly during the entire span of life on this earth.

When a population spreads over a wide geographical area, it follows that the organisms at one end of the region may have to contend with very different geographical, climatic, and ecological conditions from those which prevail at the other end. A single genetically homogeneous animal population, for example, may expand slowly up a long valley until the vanguard eventually finds itself in an alpine environment quite different from that of the parent population remaining at the lower end of the valley in semitropical conditions. Here the settlers may be free from many of the problems of life in the tropics, but will be exposed to the effects of a higher altitude and much stronger solar radiation. While the parent population remains in the original luxuriant, semitropical lowlands where rich foods are available, but the sunshine is filtered by the thick foliage of the forests, and where

THE PHYLOGENETIC CONTINUUM

Species continually tend to divide into separate subspecies, which in turn evolve into separate species. The reality is the phylogenetic or racial continuum, persisting through time, subdividing, and occasionally becoming extinct. The species and subspecies identified by taxonomists represent the state of affairs that exists at one moment in time only.



myriads of tropical pests and diseases confront them, the migrant population has to contend with an entirely different set of survival conditions.

In such cases, the forces of natural selection which will work upon the migrant element in the population will be very different from those which continue to develop and shape the original parent population in the lowlands. If the individual members were to retain an excessive mobility, moving backward and forward and freely interbreeding with all segments of the population, clearly there would be no possibility of local

specialization, since genetic migration within the total population would tend to counterbalance the effect of local genetic adaptation as quickly as this took place. But a sense of territoriality restricts excessive migration and results in the formation of local *demes* or mainly inbreeding local groups, each with its own more or less separate *gene pool* or distinctive reservoir of genes. (6)

Where the demes are entirely inbreeding, because of geographical or social isolation, local diversification will be rapid, and each deme will soon become a microrace, a small but distinct *subspecies*, in its own right. But where limited interbreeding exists between neighboring demes, each deme will tend to develop its own characteristic phenotype — its own distinctive, genetically based physiological form — which will represent an equilibrium between the force of local selection and the impact of genetic migration between the deme and its neighbors. When this occurs, the total population will retain the general characteristics of a single species, but will reveal what is called a *racial cline*, a genetic gradient stretching from one major environmental area to the other. (7) In this case the frequency with which specific genes evidence themselves will steadily change as we move from the area of original settlement up the valley to the new environment. At no point will there be any sharp break in the genetic gradient linking the two extremes of this continuous population, but the colonial population at the extreme end of the racial cline will eventually develop a markedly different phenotype from the older-type population which remained in the original homeland and consequently retained the original phenotypical character.

Should an environmental barrier, such as the flooding of a low valley or the incursion of a rival species, sever the population into two genetically isolated parts, then the gene flow between the two wings will be totally halted, and the two

(6) Consult G. W. Lasker, *Physical Anthropology* (New York: Holt, Rinehart and Winston, Inc., 1973), pp. 79ff. on the relevance of local “demes,” or gene pools, in evolutionary genetics.

(7) A clear distinction between interracial and intraracial clines is drawn by Harvard anthropologist Carleton C. Coon in *The Living Races of Man* (New York: Alfred A. Knopf, Inc., 1969). Ironically Coon’s theories of human racial origins have been justly criticized for failing to acknowledge the full extent of prehistoric migration. Yet both interracial and intraracial clines result from the fact of migration.

populations will henceforth develop quite separately into two distinct subspecies. Even without the divisive effect of territoriality, speciation will result whenever a genetic barrier arises to prevent the migration of genes throughout the total population; that is, whenever the total population ceases to comprise a single gene pool. Once the flow of genes is disrupted, natural selection will be able to operate more effectively to select for survival in the different environments, free from the negating effects of genetic migration. The separate populations will then evolve into new and distinct subspecies and these may continue to diversify in the course of time until they become entirely separate *species* in their own right, populations whose members resemble each other and can breed with each other but who have lost the ability to breed successfully with other types of organisms. This lineage, constantly evolving through time, is called a *phylogenetic continuum*. The evolutionary changes in such intergenerational racial units can be so great that if the living and the ancestral forms were to be placed side by side, taxonomists would classify them as separate species.

Even when a population becomes separated in two environments which are not basically dissimilar, genetic isolation will usually lead to speciation as a result of a phenomenon known as *genetic drift*. This is the name given to random changes which occur in the genetic content of inbreeding, isolated populations and are not due to and do not serve to adapt the organism to any particular set of environmental conditions. The random destruction caused by a flood, for example, may eliminate some part of a population, and in so doing cause a slight change in the average phenotype of that population, even though the change may be meaningless in terms of survival and natural selection.

Such changes in the genetic character of a population which arise from chance variation rather than from natural selection are more common among nonadaptive traits, characteristics which do not have any immediate survival value and which are therefore not subject to natural selection. They are also more likely to be significant in small rather than in large populations. When a gambler throws just one or two dice, the chances that a given number may fail to come up are quite high. But when a thousand dice are thrown, the law of

averages will ensure a more or less equal frequency for each number. By the laws of probability, therefore, the genetic constitution of a small isolated population will be likely to drift in one direction or the other due to chance alone, but larger breeding populations will not be so easily modified by random inequalities of reproduction or by the accidental death of a few members.

Genetic Homogenization

When speciation occurs, not all the genetic characteristics of these two populations will necessarily come to differ. Changes will more likely occur only in genetic qualities that respond to the particular needs of the new environment. The "Mongolian Spot," a dark blue patch that commonly appears on the skin of Mongolian infants at the base of the spine, seems to have no survival value and is therefore apparently unaffected by most environmental circumstances, so that we say that it is a non-adaptative characteristic. (8)

Physical anthropologists formerly believed that a large number of inherited characteristics were nonadaptative; that is, that they were not subject to the forces of environmental selection. However, this view is no longer held because the power of environment, in which we must include disease, is now known to be far more extensive than we previously imagined. In consequence, the continuous elimination of particular genes in genetically isolated populations, localized in a constant environment, will tend to promote a high degree of phenotypical uniformity when inbreeding takes place over a long period. This is not to say that its members would ever become identical because not all genes will be adaptive to the prevailing selective forces and in any case mutations constantly tend to recreate a degree of diversity. Completely "pure" races therefore exist only as a hypothetical concept, and would

(8) Some authorities today maintain that there are no physical traits that are *not* adaptive. They claim that all physiological characteristics are in one way or another subject to selective forces, even though the rate of selection may be very slow in some cases. It is hard to see, however, how the possession of the "Mongolian Spot" — to cite one potentially "nonadaptive" characteristic — could affect the reproductive chances of the individual. Logically it could be true that all physiological characteristics are in the long term "adaptive," but the selective value of some traits must be so minimal that to all intents and purposes they may be regarded as "nonadaptive."

have to be made up of identical siblings produced by mitosis or cell division of the fertilized egg, but all isolated inbreeding populations do tend toward a high degree of uniformity where adaptive characteristics are concerned, thus undergoing progressive *genetic homogenization*.

Thus territoriality plays an important role in preventing hybridization and thereby facilitating race formation among potentially mobile populations. If the members of these remained free to wander all over large areas, a constant remingling or recombination of genes would frustrate the tendency toward local adaptive specialization. Plants, of course, are rooted where they are, and most varieties can only interbreed with their immediate neighbors, so that they possess a natural 'territoriality'. Territoriality, implying a tendency to "stay put" in a home territory, only becomes an evolutionary necessity, from the point of view of promoting speciation, in the case of birds, mammals, and according to Konrad Lorenz, (9) some fishes. While territoriality does not rule out the possibility of invasions or seasonal migrations, it helps to localize the population so that environmental adaptations are able to accumulate through the generations. But for territoriality, evolution among the higher animals would have proceeded much more slowly, with possibly far less speciation than actually arose.

Feral Constraints

Although geographical and territorial boundaries both serve to isolate populations genetically, there are other forces at work which facilitate that genetic segregation which is an essential prerequisite to speciation. Obviously, evolution would have been impossible if every evolutionary experiment had been cancelled out by crossbreeding or by reabsorption of the diverging population in parental or sibling stocks. For successful speciation it is necessary that subspecies remain genetically isolated until all possibility of genetic admixture has disappeared. To achieve this, all higher animals living under natural or feral conditions reveal a marked unwillingness amounting

(9) Konrad Lorenz stresses the fact that the older distinction between "innate" and "learned" behavior is overrigid. See Konrad Lorenz, *Evolution and Modification of Behavior* (Chicago: University of Chicago Press, 1967).

usually to positive refusal to interbreed with members of other subspecies. Animals in a wild condition do not even attempt to mate with other species, since they are subject to *feral constraints* which prevent such wasted biological activity.

Zoologists identify two types of constraint: built-in constraints, based on physical "sign stimuli," and acquired constraints or "prejudices." Built-in constraints or sign stimuli operate as a positive stimulus to engage in reproductive behavior, and these take the form of movements, colors, smells, and combinations thereof, common to animals of the same subspecies not to attempt sexual relations. They act like a sign that reads: "Danger, a new biological experiment is in progress here. Do not approach." Species-specific sign stimuli are like the yellow flag flown by a ship entering a harbor, when quarantining itself because of infectious disease on board. All who are not already on board are warned to keep well away.

In addition to built-in sign constraints, the distinguished zoologist Peter Klopfer (10) believes that acquired constraints or prejudices also come into action. These may arise because of behavioral imprinting and habituation. Imprinting takes place during the first few days of life, while habituation to the parent-type occurs during the more prolonged relationship that links immature mammalian offspring to their mothers. Both work to ensure that when sexual maturity is attained, mating will only be attempted with those forms that resemble the parent or siblings.

Both imprinting and habituation supplement built-in constraints in a feral state, thus making speciation possible and preventing genetic admixture even when two closely related subspecies may find themselves in contact. But in conditions of domestication or captivity the story is very different, and in the case of man, culture has created a non-feral environment which, particularly where the sense of territoriality has become weak, has resulted in the near-abandonment of constraints against crossbreeding. However, culturally motivated prejudices still do operate among men in forms which are basically similar, in principle at least, to the

(10) See Peter M. Klopfer, "Imprinting: A Reassessment," *Science* 47:302-303 (1965); also *Behavioral Ecology* (Belmont, Calif.: Dickenson Publishing Co., 1970).

acquired constraints that are universal among feral animals.

Intraspecies Competition

When geographical isolation, territoriality, or simply feral constraints create a genetically isolated population, evolution can take either of two routes. The adaptations that take place may be of purely local survival value, favoring qualities which assist the organism to survive in that particular environment, but which have no added survival value in other environments. Protective skin coloration, for example, is valuable in tropical climate zones, but may be actually undesirable in more extreme latitudes where the sun's rays are weaker and the skin needs to be able to absorb all the vitamin D it can obtain from sunshine. On the other hand, diversification may be the result of evolutionary developments which, by enhancing the organism's ability to vary its response to a variety of different stimuli, have survival value in a wide variety of conditions. The temperature control system of mammals and the heightened intelligence of primates both represent steps up the evolutionary ladder which are of value in many different circumstances and do not make the organism a prisoner of its particular environment. This type of evolutionary advance usually occurs when the selective forces are particularly fierce and environmental changes succeed each other with considerable rapidity. Such was probably the case during the Devonian period when the first terrestrial vertebrates slithered in the mud left by the drying lakes and again during the ice ages of the Pleistocene when the size of the brain among our ancestors tripled in less than 2 million years.

As population increases, the stress caused by overpopulation may cause surplus animals to attempt to move away from their own territory in search of more thinly populated areas. In most cases this situation will mean that they will be obliged to invade neighboring territories which are already occupied and that a struggle will result between the invaders and proprietors for the available resources. If the proprietors are better adapted to the level conditions they may succeed in defending their territory successfully. On the other hand, if the invaders come from a more competitive subspecies, they may be expected to succeed in ousting the older, less sophisticated breed, and another scene in the evolutionary drama will have

been enacted. In this manner we may expect the new and more evolved subspecies to increase in number and expand first over one territory then another, annihilating all less advanced competitors in their path by expropriation of living area, if not by actual physical violence.

In many cases the proprietors of such territories may be a less evolved variety of the invader's own species, and since the food requirements of such populations will be the most nearly similar, a bitter conflict will result. Unless the older, less evolved variety is protected by some natural barrier, as were the animals of Australia and the Americas following the isolation of these continents by continental drift, it may be eliminated, leaving the more modern variety or subspecies as the sole surviving representative of the species. Only when subspecies have become sufficiently distinctive in their character to have evolved into separate species with non-conflicting food habits will they stop competing with each other and become capable of living amicably within the same ecological community.

Natural selection operates, therefore, not only in competition for survival between the individual members of any one population but also through competition between closely related species for control of the available resources. Among the higher animals this takes the form of both intraspecies and interspecies competition for territorial control, since territory implies access to resources and to reproductive privileges. This is also true in the case of man, except that cultural forces play an important role in determining the ability and willingness of a population to reproduce competitively, and also the willingness of a population to cooperate with its own members in defense of the home territory. Human populations with a high reproductive rate and an aggressive will to survive still show an evolutionary superiority over other human populations which for cultural reasons have lost these two qualities.

MAMMALIAN SOCIETIES AND THE EMERGENCE OF THE FAMILY SYSTEM

J. W. JAMIESON

The fact that all primates live in groups is not without significance for anthropology. Indeed, to appreciate the evolutionary significance of human social behavior, we must examine this in the wider setting of mammalian social life. In particular, the current attitude of many sociologists towards human family systems reflects an ignorance of animal ethology, which the recent recognition of sociobiology may do much to correct.

In this article, I would like to make a brief survey of the different forms of mammalian social life with a view to setting the most ancient and basic of human social institutions — the family — into its proper sociobiological and evolutionary setting.

Evolutionary Value of Society

Some of the eighteenth century encyclopedist philosophers, whose ideas still influence many people today, were prone to argue that society was a human invention which arose as a result of an intentional, rational decision made by early men to collaborate with their fellows. But Aristotle, 2000 years earlier, was nearer to the truth when he described man as a “social animal.” Our subhuman ancestors were already social animals, living a group life, long before they evolved even the power of speech. Society and culture are both older than *Homo sapiens* and are part of the evolutionary order, a natural and presumably inevitable product of the law of natural selection and the survival of the fittest. Society appeared because it helped to ensure survival; society evolved at the mammalian level because it provided protection for the helpless mammalian offspring during their increasingly long infancy and improved the chances of survival to adulthood and hence parenthood. (1)

Both prenatal and postnatal care of infants become biological imperatives at the mammalian level of evolution because of the enormous gap that separates the newly conceived fetus from the

(1) See J. S. Dimmond, *The Social Behavior of Animals* (New York: Harper & Row Publishers, 1970).

physiological complexity of the mature organism — in particular because of the helplessness of the offspring at birth. As a result, something new and essentially cultural emerges, characteristic of all mammalian behavior: a mother-child relationship which generates strong emotional ties. This mammalian mother-child relationship became the basis of the human family system under the special conditions under which our ancestors evolved.

Taking a wider view, the mammalian mother-child relationship has evolutionary value not only in that it meets the immediate biological need of providing nourishment and direct physical protection to the child during the period of helplessness, but also in that it facilitates the imprinting of the attitudes and behavior pattern of the mother on the infant. This imprinting process provides the first elementary basis for the transmission of acquired skills and the rudimentary foundation of culture. At higher levels of mammalian life, where the offspring spend even longer with their parent or parents, the transmission of more sophisticated acquired skills becomes possible, and the education process is further enhanced as improved means of communication develop. Among many predators, quite complex hunting skills are conveyed from generation to generation simply by example and imitation. It has also been demonstrated that among birds, which have evolved many social patterns of behavior surprisingly parallel to those of mammals, the young learn the route by which they should migrate by imitation and example, and young birds which have been separated from the adult community do not know which way to migrate even though the urge to migrate seems to be inborn. (2)

Mother-Child Groups

Zoologists have distinguished some four different patterns of social relationship among mammals, which are undoubtedly of significance to us if we wish to see human behavior in an overall evolutionary perspective. At the lower level of mammalian life — and we may include protomammals such as the platypus in this category — society does not extend beyond

(2) For entertaining but informative reading concerning behavior in animals, the reader would enjoy Konrad Lorenz, *King Solomon's Ring* (New York: Thomas Y. Crowell Company, 1961).

a mother-infant relationship. Male and female squirrels, for example, nest separately, and only come together for a brief mating contact. The female squirrel produces the offspring in her own nest, and provides them with protection and food until they are sufficiently matured to attempt an independent existence. The male plays no part in the upbringing of the offspring; all necessary care and protection is afforded solely by the female and no question of any male-female pair relationship exists.

Herds

Herd animals practice a considerably more sophisticated type of relationship. Herds comprise a number of females and their offspring who associate together for mutual protection. In such groups each infant learns to identify its mother by a process of psychological imprinting immediately following birth, and the mothers tend their own offspring, rejecting all advances by other offspring. Among some species the females and their offspring are attended for either part of the year or permanently by a dominant male who acts as leader, but in others the males may live alone or else congregate in all-male herds separately from the females, who then raise their offspring without male assistance.

Permanent Male-Female Troops

In a third category, which includes most monkeys, we find groups of females and their offspring who have succeeded in winning the permanent protection of the males, so that permanent societies of males, females, and offspring are the rule. This category is known as the permanent male-female troop and is typically simian. Young primates take so long to grow to self-sufficiency that the females — most of whom come into estrus monthly and unlike many other mammals remain capable of breeding all year round — are burdened with dependent children throughout the greater part of their adult life. In fact, virtually the entire adult life of female monkeys is spent in pregnancy and in the care of young children. Under these circumstances it is obvious that year-round protection by the males has definite survival value. Intersexual relations within these permanent male-female groups are essentially promiscuous and the social system is primarily rooted in the

straightforward dominance of the larger and tougher animals over the weaker, modified only by the tendency to form small cohorts or groups whose members support each other in intra-troop conflicts.

Although apes, monkeys and hominids have evolved in different directions over the past 30 million years, it is generally assumed that man's early arboreal ancestors may well have lived in permanent male-female groups, since their environmental problems must have been similar to those of contemporary monkeys. Too much should not be read into speculations of this kind, which are at best intelligent and informed conjecture, but keeping this warning in mind, let us take a look at the major features of baboon social organization, illustrating as it does this third class of mammalian social organization, a class which may well have been that of our own *Ramapithecine* ancestors, for baboons spend much of their time on the ground, as our *Ramapithecine*-type ancestors would have probably done ten million years ago.

Baboon Troops

Baboons are probably one of the most intelligent of the monkey species. Those which live on the edge of the woodlands spend much time on the ground, but being very nervous of snakes as well as of carnivorous mammals, they prefer to sleep in the security of trees. During the day they may trek on foot across quite substantial stretches of open country, but they always take care to arrive at a clump of trees before nightfall and remain in their aerial retreats until well after dawn. *Role of Males* —Like all other monkeys, savannah baboons are highly gregarious creatures, living in troops ranging from 10 to 100 or even 150 individuals, and never roaming more than a few yards from the companionship of the troop all their lives. Group life undoubtedly serves the needs of each in protecting them individually from predators, and is of particular evolutionary value in affording greater protection to the mothers and infants, for the survival of species is not at stake when an aging adult dies, but it is endangered by depredations which affect the young. The prime evolutionary value of the baboon troop consequently seems to rest in the fact that it provides year-round protection for the females and infants. Without such protection it is doubtful how many baboon infants would

survive to reach parenthood.

The role of the males in providing protection for the females and infants is apparent at all times. When the troop is feeding, there are always several males on guard duty who bark warnings at the appearance of a predator. On the approach of danger the males will invariably adopt a position in front of the females and infants unless tree refuges are available, where the entire troop can take to safety. Similarly, when baboon troops are on the move, the females and infants are placed in the safe company of the dominant males in the middle of the line while the van, the rear, and the flanks are protected by subordinate males. (3)

The Absence of Food Sharing — Unlike most other monkeys the baboons are not strict herbivores. Their diet comprises flowers, seeds, bulbs, grass, fruit, leaves, and insects, but they are also known to eat small monkeys and even young gazelles on occasion. However, readiness to supplement their diet with meat, although suggestive of the ease with which our own ancestors may have adapted to a meat diet has not materially affected their pattern of life or social organization. As food gatherers, feeding mainly upon an ample supply of grass, fruit, and insects, supplemented with birds' eggs and even crocodile eggs where available, the females are perfectly able to find their own food alongside the males, and there is no food sharing except between mother and young, nor therefore any division of labor, except in matters of defense and care of infants. Not only is there no food sharing, but there is no assistance, either, for wounded and sick members of the troop. Should a baboon break a leg, fall ill, or just become weak from old age, the others make no attempt to assist it, and falling behind when the troop is on the move, that member will soon become a prey for predators. Only the young are given the benefit of positive aid and assistance.

As may be expected, the savannah baboons are essentially territorial animals in that they tend to keep to their own familiar homeland. (4) Each group ranges a territory which

(3) For further reading on baboons consult K. R. L. Hall and I. DeVore, "Baboon Social Behavior," in Phyllis Dolhinow (ed.), *Primate Patterns* (New York: Holt, Rinehart and Winston, Inc., 1972).

(4) It should be noted that the carnivorous tendencies of the East African savannah-dwelling baboons have developed as an evolutionary response to the

may extend from 3 to 6 square miles, with little or no contact between troops occupying neighboring territories, even though these may have originated in the subdivision of a single original troop at some earlier time. Each troop is therefore intensely inbred over the generations — a circumstance which promotes rapid evolutionary change. Some inquisitiveness may be observed when two troops meet at a water hole regarded as neutral territory, but there is neither animosity nor fraternization. By contrast, definite aggressive postures are adopted should an alien troop penetrate deeply into the home territory. Actual combat is rare, but perhaps only because aggressive poses are usually sufficient to drive intruders away.

Dominance-Submission — Within baboon troops, however, the general law of dominance and submission seems to prevail. Certain animals dominate others, and these become centers of attraction and of popularity around whom the weaker eagerly gather. Regular cliques develop among the males which become, in effect, political groups, and in the course of time a pattern of hierarchy develops between cliques, with the toughest and most cohesive group dominating the others and the dominant male in that group emerging as the leader of the entire troop. (5) Once a pattern of hierarchical leadership has been established, the dominant male and his lieutenants will maintain order among the subordinate members of the troop, scolding and even slapping adults and infants who may squabble too seriously or who may challenge their authority. (6)

Mating Behavior — Like human females, female baboons ovulate approximately once a month but unlike human females, are receptive to male contacts for only a few days. During the early stage of estrus the female will approach the younger and

problem of survival under the prevailing ecological conditions. The forest-dwelling baboons of Central Africa have no difficulty in finding sustenance on a more purely frugivorous diet, eating meat much less frequently than the savannah variety.

(5) S. L. Washburn, P. C. Jay, and Jane B. Lancaster, "Field Studies of Old World Monkeys and Apes" in Dolhinow, pp. 246-260, have suggested that the baboon grooming clique is generally comprised of siblings. If this is demonstrated to be the case, then the patterns of kinship characteristic of human societies have a far older evolutionary history than has hitherto been supposed — protokinship bonds being present at even the nonhuman primate level.

(6) It is interesting to observe that recent studies have shown that young baboons often acquire a degree of hierarchical pre-eminence in play groups from the status of their mother — an example of ascribed status!

less dominant males, consorting with these, and only later when fully receptive will she present herself to the dominant males. Since each dominant male usually demands privacy in the area immediately around him, allowing in only regular friends for grooming purposes, she may first have to accept a certain amount of physical punishment before being permitted to trespass close enough to be able to win his attentions.

At this stage there will be a temporary pairing off of a male and the estrus female for a few hours or even for so long as a few days, during which time all other social ties and loyalties are modified. Male and female may move to the edge of the troop, avoiding other social contacts during this period. Such temporary social relations may be interrupted, however, by another male who will harass the other until one admits submission, and the female is then passed to or remains with the more dominant. At birth the neonate becomes temporarily the center of attraction for the entire troop, but thereafter the infant develops special emotional links with the mother and with her offspring — who are in effect his siblings. The identity of the father is not known, and therefore no father-infant relationship exists. Baboon societies consequently bear no resemblance to the human family system, the closest parallel to the baboon troops known in human experience being the concept of the commune.

Family Communities

In the absence of food sharing, the baboon troop must be regarded as a permanent male-female troop and cannot be included in our fourth and last category of mammalian society, the *family community*. Rooted in permanent or at least semi-permanent, male-female “pair-bonds,” and more common among carnivores than herbivores, it is under the family category of mammalian social organization that we class human societies.

It has been suggested that some other primates live in emergent family-type communities because of the relative smallness of the group and the clear dominance of a single male. Examples of such family-type communities are numerous — notably the gibbon and the South American marmoset. In both these cases one male seems to form a more or less permanent bond with a single female, and the gibbon and marmoset social

group comprises a single adult male and adult female, living in their territory and raising their offspring. However, at this point the analogy with the family concept breaks down. There is no division of labor between males and females, and there is no food sharing. The small social groups of the gibbon and marmoset remain permanent male-female groups in these essential qualities, and though the absence of other adult males and females precludes promiscuity, these units by no means fulfill the evolutionary functions of the family group, which is a more or less permanent pair-bond with economic cooperation (food-sharing) and some division of labor, the purpose of which is to ensure the survival of the dependent offspring.

Most of the great carnivores of Africa and Asia form family groups, but it is the pack-hunters whose social system bears the closest similarity to that of man. It may come as a surprise to those who are acquainted with the promiscuous behavior of our domesticated canines to learn that in their natural state wolves form permanent male-female pair relationships, and that wolf packs are in fact *extended families*.

Wolf packs have now been recognized as family or kinship units that hunt cooperatively. They grow up around a pair of adult wolves and their offspring. Adult males pair off with adult females, establishing a permanent or semipermanent pair-bond, each pair possessing their own "den" in which, as a nuclear family, they raise their own litter. Since the females have to care for offspring during the "denning" season, hunting becomes the responsibility of the male at this time, and food sharing develops on a family basis because of a basic dichotomy of role — a basic division of labor — between the paired male and female. At times when the female is unable to join the chase, the male, on his return from a successful hunt, will regurgitate sufficient food for her sustenance. On occasion, adults leave the parental pack to set up their own pack. Having a permanent family-type society, wolves take a great interest in their offspring, extending much care not only to the nourishment and protection but also to the socialization and education of their young. Wolf fathers share their consorts' interest in the litter and appear to educate the cubs in the techniques of hunting. (7)

(7) The extent to which the cubs merely copy the hunting activities of the

It is not difficult to see why pair-bonding would become reinforced by food sharing and a basic sexual division of labor among carnivorous species dependent on pack hunting operations to create a family-type society. While the pregnant or lactating herbivore female can feed herself without difficulty, the female wolf is quite unable to participate in the chase without leaving her cubs unprotected. Those which failed to gain the assistance of a male partner might be more likely to lose their young, either through miscarriage while hunting, or more likely the young might be lost to predators while the mother was obliged to absent herself on hunting expeditions. Successive generations would therefore tend to be bred from those male and female wolves that developed the family system and its implied correlate — food sharing. The pair-bond, reinforced by food sharing, is the basic quality of the family, for the members of a family face the challenge of survival as a joint unit, with male and female developing reciprocal, specialized roles to promote not only their own survival but particularly the survival of their genes, embodied in their living offspring.

It seems to be natural, therefore, that the ancestors of man, becoming — unlike the other primates — carnivorous predators, developed pair-bonding and a family-type social system. In the process of several million years, our hominid and early human ancestors may well have acquired, as a result of strong selective pressures, an inbuilt, genetic predilection for pair-bonding and family-life which will have been further reinforced by the growth of speech to give cultural meaning and continuity to an originally biosocial phenomenon.

As indicated at the beginning of this article, I would suggest that sociologists and political theorists should acquaint themselves with the possibility of such inborn proclivities for family life before attempting to reconstruct society in ways which may run quite counter to our evolutionary-shaped and now inborn emotional needs and tendencies. This is not to say that, theoretically, a new breed of humanity devoid of familistic tendencies could not be bred; but such a step — even if desired — would require a fantastic degree of control over human breeding for a protracted number of generations.

parents can be debated, but most observers agree that the wolf parents deliberately strive to educate their young.

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EARLY INDO-ARYAN SOCIAL STRUCTURE

JOHN W. RICHARDS

It is generally believed that the Indo-Aryans entered the Indian sub-continent between the sixteenth and fourteenth centuries B.C., (Wheeler, 1953 p. 90), as an ultimate extension of the movements of Indo-Iranian peoples in a southerly direction either from the Pontic steppes or at least from the parklands adjacent to the Caspian and Aral seas (Herzfeld, 1935 p. 6), if not from a more central location in Europe as the "Germanists" hold (Bosch Gimpera, 1961). Marija Gimbutas maintains that like the centum Indo-Europeans, they derived from the Indo-European people of the steppelands, and they resided on the grasslands of the Aral sea before moving, like the Kassites, Mitanni, Hittites, Phrygians and Tokharians southwards, and eventually (Gimbutas, 1963) eastwards to India. With the possible exception of the records from Pylos and Hittite documents (Palmer 1955), the Indo-Aryan Vedas provide us with the oldest record of social life among any Indo-European or Aryan peoples.

Philological evidence makes it clear that the Indo-Aryans were a branch of the joint Indo-Iranian family whom Rostovtzeff (1922, p. 38ff) first clearly demonstrated were related to the Scyths and Sarmations. In the spread of Indo-European speech across Asia, as proto-Iranian and proto-Sanskrit, migrating pastoral human agents are undoubtedly involved. Even though some genetic admixture may have taken place en route, we have here a migrating culture complex which could not be adequately explained by any assumption of parallel invention or culture convergence.

Burrow (1955) takes the older view that the Indo-Iranian cradle was in southern Russia, their southwards migration having begun somewhere around 2000 B.C. (± 400 years). By the sixteenth century B.C. he also supposes them to be in the valley of the Oxus, which was probably the *Aryanan Vaejo*, the ancient hunting grounds and pastures, the "paradise" from which the Iranians believed their ancestors had come. From there the Indo-Aryans were to pass through the narrow valleys of the Hindu Khush and Pamirs into the broad plains of the Indus, while the Iranians had to content themselves with

the less attractive plateau land which was only recently re-named Iran in their honor.

Meaning of the Term "Aryan"

With the Iranians and Indo-Aryans we have the only historically legitimate use of the name "Aryan." Originally a tribal or national name — never in any way a linguistic term until Max Muller borrowed it and applied it generically to the entire family of Indo-European languages — its earliest derivation is obscure. Theories which have been proffered do not suppose any eponymous ancestor by that name, and Max Muller suggested that it might be derived from *ar*, "to plough," cognate with earth. If this were the case, an "Aryan" would originally have been an agriculturalist as Palmer (1955) argues — one who ploughed. Although this theory would have fitted well enough with a central European or south-eastern, Danubian origin, the term "Aryan" is without cognates in Europe except among the Celts and Greeks. The Irish used the cognate word *aire* as the title of noblemen and it is probable that the place name *Eire* derives from the same root. In the Greek language, *ari* as in our modern word "aristocracy," also signifies "noble." As the only peoples known to history who used *Aryan*, *aire* or *ari* conceived of it as meaning "noble," and furthermore were pastoralists rather than cultivators, the "ploughman" theory seems to be without justification.

More likely is the suggestion that the "Aryan" was one who "owned earth," a land-owner who authorized the agriculturalists to cultivate his share of the land, in return for food-rents. This would fit the Sarmation and Indo-Iranian background far better, and allow an easy evolution of meaning from "landowner" to "noble," the role in which the family-conscious Indo-Iranian rent-collecting, horse and chariot riding invaders pictured themselves.

Relationship of Iranian and Indo-Aryan

At the time of the separation of the Iranians and the Indo-Aryans, the two groups are believed to have spoken a single language, possibly already divided into two or more dialects. Taking all other factors into consideration we may tentatively assume a common system of social organization for the two groups, as might benefit an almost wholly pastoral pattern of

subsistence and the military organization necessary to facilitate an extended period of migration and conquest lasting for a number of generations.

The most obvious deduction is therefore to assume that they possessed a clan, phratry and tribal structure, similar but not identical to that of modern Ugrians. If the early Indo-Iranians had followed the Sarmation custom, maintaining their own pastoral organization while levying tribute from settled agricultural communities in the areas they occupied, a continuity of Indo-European, agricultural-pastoral dualism might be demonstrated from Ireland to India. As far as Iran is concerned, an invasion by pastoralist warriors can be substantiated, archaeologically, just as the Aryan invasion of India is substantiated by literary tradition.

The common roots of the Indo-Aryans and the Iranians is also well established and as Majumdar writes of the Indian Vedic literature and the Iranian Avestan writings:

In both the Veda and the Avesta the picture of the gods is primarily that of an heroic Aryan warrior riding a chariot drawn by powerful steeds. Like the Vedic gods those of the Avesta hold up the sky to prevent it falling down, and image worship is equally unknown in the Avesta and the Veda. (Majumdar, 1951, p. 227).

Arrival of the Aryans in India

There are no indications that the long southwards migration from the steppes led the Indo-Aryans through any areas of dense population before they reached India and Persia, but it is to be assumed that Transoxiana must already have been quite well settled before their arrival. In such a migration, every adult male would have served as a warrior when required, and an ever-ready tribal "militia" would doubtless have been an appropriate answer to the political and military needs of relatively small, semi-nomadic communities. Entry into the richer, more luxuriant and more thickly populated plains of India would, however, have necessitated changes in the social structure to provide not only for the initial conquest, but also for the safeguarding of the invader's position, while at the same time allowing the settlers to enjoy their new possessions. The administration of vast territories, with a large subject population, the need for preparedness against the possibility of sudden

attacks not only from autochthonous tribes but also from other Indo-Aryan tribes, invaders, who might find it easier to take over an established Aryan kingdom from their own compatriots, than to press into the unknown, required a standing army in a constant state of readiness.

Thus, a settled but perilous condition necessitated a more centralized and efficient government than the old tribal system provided, and the constant warfare between such settlements, led to a concentration of social power in the hands of kings and generals, probably at the expense of tribal constitutionalism. The Aryan tribal tradition undoubtedly involved councils of the clan elders, periodic assemblies of the freemen (or army) and the election of kings. But if we suppose that the undivided Indo-Iranian princes were from an early date attended by a permanent body of armed companions — as were the Scythians — the turbulence of conquest led in India, as in Iran, to a concentration of military responsibility around the household of the “principes,” and the assumption of all additional governmental and administrative responsibilities by the royal household as and when these arose.

Thus the Indo-Aryans entered India with swords and long spears, horses and cattle, bringing their wives, children and sparse possessions in ox-drawn wagons. They were accustomed only to the bare material possessions of a pastoral life, but within a couple of centuries, by the time of the Vedic Age, we are presented with a vivid and colourful picture of royal courts and a vital and lively “heroic” society. Virtually all the elements of Indo-European tribal structure remain, at least in vestigial form, but the center of interest, action and social power is the royal court. The cultural historian sees strong parallels in Celtic Wales and Ireland and among the Germanic Lombards at the time of their entry into Italy.

If the Indo-Aryans had already been accustomed to extorting “protection money” or tribute from agriculturalists in Trans-oxiana, then their strict refusal to admit the *dasyu* or autochthonous population to their own lineages would be but a continuation of attitude in a strongly familistic society already wedded to the idea of class exclusiveness and hierarchical domination.

References to the storming of walled cities, however, indicate planned campaigns of aggression against the Dravidian popula-

tion, which may have exhibited a high cultural level even though Harappa and Mohenjodhara had already declined. The indigenous population seem to have had walled cities — which were presumably anathema to the earliest Indo-Aryans, who for centuries after their arrival in India remained pastoralists and preferred hunting and horse-riding to city recreations.

Max Muller believed that at the time of the Rigveda (circa 1200-1500 B.C.), the Indo-Aryans had settled an area extending from eastern Afghanistan, through the Punjab and Sind, Rajputana, Kashmir and the upper Ganges, but the absence of any mention of the tiger in the Rigveda implies that the invaders had not at that time begun to penetrate the jungles of eastern or central India.

Clan, Phratry and Nation

The largest stable unit of social organization appears to have been the *janah*, which is cognate with the Greek *genos* and the Latin *gens*, terms which have been generally translated as “clan.”*

The Indo-Aryan *janan* (pl.) seem definitely to have been larger than clans, and possessed kings. If we bear in mind the fact that the early Achaeans had “kings” over each phratry, it may perhaps be possible to assume that among the Indo-Aryans the term *janah* was sometimes used to indicate a large group of lineages which permitted (if not encouraged) endogamy. On the other hand it is more commonly translated as “tribe” in the sense of the Rigveda (VII, 18, 11) which appears to indicate “the twenty-one tribes (*janan*) of the kings of the two Vaikarnas,” and the references to the *pancha* (five) *janah* of the Vedic Aryans would certainly imply that the correct translation would be “tribe” or “nation.”

This interpretation would fit the reference to *janan* in the Dasarjña (an account of the “battle of the ten kings”) which describes a confederacy of ten *janan*, each with their own

* The Greek *genos* was quite clearly a patri-clan, or even a patri-lineage, but while some authors (such as Engels, 1942) believe the *gentes* of the patrician Romans to have been exogamous, Mommsen (1908) and others have declared them to have been predominantly endogamous, and there is a good case for arguing that the Roman *gens* was actually a group of (related) lineages, which may originally have been exogamous, but with a rise in numbers and social exclusiveness, tended to become increasingly endogamous as the laws were modified to permit closer inter-kindred marriages.

king, aligned against the five *janan* of the Bharata federation. While shifting federations of tribes play a part in the Rigveda, these seem to be determined largely by alliances between ruling families rather than by traditional supra-tribal traditions. Thus the Tritsus, Bharatas and Purus, who are politically allied but otherwise seemingly unrelated in the Rigveda, amalgamate in the later Vedic period under the name of Kuru, taking this name from the patronymic of one of their royal houses (RV X, 33. 4).

Responsibility of Kingship

The responsibility and privileges of kingship were hereditary within certain royal lineages, although public acclamation by the free populace, if not actual election, of new kings was the rule (Sidhanta, 1929 p. 174). These princes were heroic leaders devoted to warfare (in which the Indo-European tradition of single combat between kings and champions in full view of the assembled armies survived) and to horse-racing and gambling, when not engaged in their official duties, such as the dispensation of justice, the supervision of the *rajasuya* or royal horse sacrifices, the maintenance of fortresses, roads, and bridges, and the "occupation of deserted places" — the last reference implying the authority of king (as the symbol of the nation) over surplus national lands (Maha II, 5, 21).

The position of the king depended largely upon his maintenance of a permanent *comitatus* — a regular corps of armed retainers, with war horses, chariots and elephants — in a state of permanent readiness, which was reinforced by the tribal militia in times of war. The Mahabharata (XII, 57, 23) warns against the evils which could ensue when a king was unable to control these armed "companions" who were called *gana*. Nevertheless, the authority of a king was constitutional, based upon his semi-sacred or magical charisma, and the *gana* were intended for the defense of the people, and for aggression against other states, not for oppressive purposes. The magico-religious nature of Vedic kingship is indicated by the presence of the sceptre, a symbol which appears to have very ancient Indo-European associations, being indicative of the sacred powers of kings, and distantly related to the fairy wand of Europe. The laws of Manu say that: "The whole world trembles at a king with ever-erect sceptre" (VII, 103) and recommend

that: "he should ever have his sceptre erect" as kings should "desire by force" (VII, 101) what they do not have (taking this from enemy not subject people), distributing any increase in wealth as gifts to his followers.

The royal household absorbed all miscellaneous "state" expenses and the state treasury was the royal treasury. This was maintained by contributions from the farmers of a proportion of their harvest, Max Weber saying that the king was known as "the taker of the sixth part" (Weber 1958 p. 77) — no mean share of the national income, even 3000 years ago!

Apart from the income from royal estates, and taxes on the villagers, the main source from which a king might derive his income would be booty, as in Homeric Greece, and tribute imposed upon defeated neighbours. However, the needs of the upper classes were as yet fairly elementary, so that the income from large estates, and the limitation of trade to barter (the cow being still the basic standard of value), would suggest that they were for the present content with their lot, the main problem facing a king being the support of the large numbers of armed warriors which were necessary for national survival under the prevailing conditions.

The Caste System

It is well established by Georges Dumézil and others that early Aryan social structure comprised three major classes — the noble or knightly, the priestly and legal, and the farmers or freemen, who also bore arms when necessary. In addition, Aryan peoples usually possessed a fourth class of slaves, but these were not regarded as tribesmen or kinsmen and therefore were below and outside the three recognized classes. They probably found an hierarchy already in existence in the Indus Valley, and assimilated this into their own system. In the event, the resultant caste system of the Vedic period still clearly reflects the widespread Aryan social structure — an upper *ksatriya* or noble warrior caste (in which was differentiated the *rajanya* or royalty); the *brahmana* or priestly caste (which eventually succeeded in claiming superiority over the *ksatriya* caste); and the *visah* or *vaisya* freemen caste. Below these three Indo-Aryan castes were the *sudra* or conquered, non-Aryan peoples.

Commerce does not appear to have been handled by the

rajanya, *ksatriya*, or even the *visah* of the early period. There is little mention of it in the Vedas, and the few references show that the merchant was poorly regarded. Cattle-owning "barons" take a critical view of the unheroic, itinerant peddler, or any who seem akin to wandering peddlers. The *pani* or merchant is thus described as "a wanderer, as a rule from strange tribes, haggling by day, stealing by night, collecting his riches in secret hordes. . . the "godless treasures" of the merchant stand in contrast to the wealth of the nobles who fill the hands of singers and priests." (Max Weber, 1958, p. 85). Nevertheless, any legal protection which the merchant enjoyed would seem to derive from the royal household, and their wares, if not themselves, must have been welcome.

The Sanskrit *sabha*, which is cognate with the *zantu* of the Iranians, and also the Teutonic *sibja*, probably represented the concept of "folk, "kindred" or "sib," and we find a council known as the *sabha* and an assembly known as the *samiti*, which are traditional features of seemingly tribal antiquity. The term *sabha* appears in the Rigveda (VI. 28, 6. VIII. 4, 9) etc., denoting "the people in the hall," that is to say, the courtiers, warriors and other members of the royal household. Ludwig in his translation of the Rigveda (III, p. 253-6) is of the opinion that the *sabha* was a smaller and more select council, whereas the *samiti* was a larger gathering of the entire people combining the *visah*, *ksatriya* (warrior nobility) and *brahmana* (priests). It is thus possible that the term *sabha* was used in the sense of the "kindred," implying that its members were nobility, kindred of the king, while the *samiti* was a popular, representative assembly.

Power of the Brahmana

The existence of these ancient representative bodies is positively indicated by the last hymn of the Rigveda, which contains the exhortation: "Assemble, speak together; let your minds be all of one accord. . . The place is common, common the assembly, common the mind, so be their thoughts united." The emphasis upon unity of thought and purpose between king and people, especially recalls the Teutonic and Doric assemblies in which the people neither debated nor voted, but simply indicated their approval, or otherwise, of the proposals placed before them "in toto" by acclamation. Nevertheless, a signifi-

cant step in the further expansion of royal power in post-Vedic times was the increasing collaboration between the king and the emerging priesthood, no royal household being regarded as complete unless it included at least one Brahman priest. The support of the priestly hierarchy for compliant princes recalls the part later played by the Catholic church in building up the power of the Teutonic kings against both nobles and people, with the officials of the church seizing the opportunity to place the crown on the head of the Frankish kings. So in the Rigveda, (RV, IV. 50, 7,) we find the advice that a king who favours the Brahmans will prosper — for that king “verily abides well established in his own place; to him, the holy food flows for ever; to him the *visah* bow down of their own accord — the king with whom the *brahmana* takes precedence.” This advice — from the *brahmana* of course — indicates a tacit contrast between king and priesthood for mutual support, the *brahmana* promising to use their influence to strengthen the power of the king against his people, on the understanding that they receive reciprocal support from the king.

The emergence of a Brahman caste, whose early duties involved assisting the king in his decision making, is an indication of the close association which still existed between tribal ritual. A further indication of the assumed magical functions of the earlier Brahmans is found in the tradition that Brahmans should be included along with the weapons and equipment furnished to help repel attacks on fortresses (Laws of Manu, 7. 75).

The Visah or Vaisya

The most numerous body within the tribe was the *visah*, the freemen who together make up a *rashtra* or tribal kingdom. Here is the old Indo-European *vis*, Teutonic *weihs*, *vic*, *wick*, Celtic *fich*, Slavic *visc* and Greek *fik*. There is also mention of a *vispati*, whose position is not clearly identified, although he would appear to have been the head of a group of villages. The term *visah*, however, commonly applies in use collectively to the third class of freemen, the village folk (Palmer 1955 p. 17) who are farmers and artisans, and it is believed that the later caste term *vaisya* is derived from it. The actual name for a village was a *grama*, the village head being a *gramani*, who was

originally elected but later became a royal official comparable to the Anglo-Saxon "thegn."

R. C. Majumdar states that: "(1) In a geographical sense, the term *vis* means "settlement" or "colonies," and a group of these settlements or colonies probably made up the *jana* (people). (2) Politically the *visah* were the subjects who constituted the *rashtra*, and who, foregathering in a formal assembly, could in an emergency unseat an incapable ruler or set the seal of approval on the coronation of a worthy one. (3) In a socio-religious sense, the *visah* represented the third class of Aryan society engaged in agriculture and commerce" (Majumdar 1951, p. 362).

The *visah* have been traditionally regarded as immigrant Indo-Europeans, especially as the later *vaisya* were one of the three "twice-born" castes, albeit the lowest. As we have already indicated, however, it is open to conjecture as to whether they were not, like the Spartan perioiki or the Celtic taogs, a population derived from indigenous or neighbouring agricultural peoples, admitted by the dominant pastoral community to the full status of freemen either as new "tribes" or as a lower strata within the Indo-European class-occupational hierarchy.

The actual position was probably complex, and may have differed substantially between the Punjab, where it may be that the *vica* were indeed Indo-Aryan freemen who now became land-owning gentry, and further east and south, where the Indo-Aryan encroachment presumably resulted in a much thinner spread of Indo-European speakers, and whole villages and tribes of aboriginals may have been absorbed as *vaisya*. In Bengal, the population came to be divided primarily between *brahmans* and *sudra*, but this process occurred much later than the true Vedic age and is not relevant to our inquiry. So far as the Vedic north-west is concerned, we must in any case remember that the caste boundaries dividing Indo-Aryan warrior noble *ksatriya* from the supposed Indo-Aryan land-owning gentry, were not fully developed in the Vedic period, and like the companions of Beowulf, it is possible that an aging member of the royal comitatus might well retire to the comfort of a rural landowning existence. It would seem more likely, however, that retired warriors owned estates known as *dham* or *dam*, from which the well-known title of "house-father" or *dampati* derived. *Dham* was cognate with the Iranian "nmana"

meaning "household" as well as with Greek "dompats," but it is open to question whether *dampati* really means father, in the sense that Dyeus-pitar may be translated as "heaven-father", or whether it does not correspond more closely to the 'hausbondi' or 'householder'.

Continued Significance of Cattle-Keeping

That the Indo-Aryans of the Rigveda retained a primary interest in cattle farming is indicated by the fact that wealth continued to be estimated, in the rules of wergild for example, in terms of cattle or bullocks. The term *gavishti*, "to fight," meant "search for kine." How early the veneration for the cow developed, is still a matter of uncertainty, but it is suggested that the pastoral immigrants may have placed such firm restrictions on aboriginal attempts to poach from the Aryan herds, that the cow quite early became *aghnya*, "not to be killed." This conjecture does not explain, however, Zoroastrian religious fervour for the "spirit of the kine," which would imply an even earlier Indo-Iranian religious attitude towards cattle.

Max Weber assumes that the Indo-Aryans dispossessed the Dravidians of the land and established themselves as a new land-owning aristocracy of freemen. These landlords did not themselves work the land, leaving this to the lower classes and in course of time the development of the caste system made it a ritualistic degradation for an impoverished Rajput landowner himself to work in the fields. Cattle-herders were also appointed to tend the cattle, and the care of animals eventually became a low caste occupation. The ritually "unclean" *dasyu* built their houses at a distance from the household of the Indo-Aryan landlord, which was often fortified, and slowly new villages — enlarged homesteads — grew up wherever an Indo-Aryan landlord chose to raise his house-tree. Where the aboriginal inhabitants were allowed to retain their own villages and land, they probably were subjected to special taxes (Weber 1958, p. 77ff; Sen-Gupta, 1952, p. 12).

Role of the Castes

Within this type of village, the small but tight lineages of the dominant land-owning, Indo-Aryan freemen were sometimes known as *kulu*, and these correspond to the Roman *gentes*. "The *kulu* like the Roman *gentes* included only the men who

mattered, the owners and masters of the village. In the ancient Indian villages from the Vedic times we can notice the existence of a two-fold division in the community, corresponding to similar divisions in the city states of Greece and Rome.” (Sen-Gupta, 1952, p. 8). A similar lineage group, all of whose members will be of the same caste was elsewhere known as a *gotra*. The sacred laws of the Aryans governed only this upper Indo-Aryan element, and the *dasyu* were excluded from all knowledge of the Aryan laws. After the establishment of a rigid class system, no *sudra* was permitted to learn the contents of the Vedic literature, or even to hear a Vedic recitation. The *sudra*, according to Ghurye, were “largely formed by those aboriginals who had accepted the overlordship of the Indo-Aryans.” (Ghurye, 1955, p. 63, p. 150), and the Rigveda clearly describes an Indo-Aryan, three-tier society comprising nobles, priests and farmers, which was in the process of acquiring this fourth class — the *dasyu* or *sudra*.

Although there is no early literary evidence of caste endogamy, this would have resulted from lineage hypergamy — some sort of ‘connubium’ doubtless existing for each lineage. The social structure was still tribal, but pronouncedly heroic in character with the *rajanya* or royal families retaining social power, while the *brahmana purohita* or chaplains were drawn from noble lineages but could still be referred to tauntingly by Sarmistha (Maha, 1. 78) as “the king’s laudator” dependent for sustenance on the patronage of the king. Steadily the more successful and militant of the *rajanya* emerge above the others, reducing the minor tribal and phratry leaders to subserviency, events in this respect taking an almost exactly parallel course to those in Anglo-Saxon England.

The children of *rajanya* and *ksatriya* classes were educated in warfare, horse and chariot riding, and elephant management and were often brought up at the courts of neighbouring princes — to make warriors out of them. Brahmins were put in charge of their religious and moral training, and their tutorship of the young nobles may have contributed to the ultimate ascendancy of the *brahmana* over the *rajanya* and *ksatriya*. The attitude of the *ksatriya* to death was identical to that of Celts and Teutons. Believing in an afterlife. Duryodhana could say, “The death of a *ksatriya* on his bed is highly sinful . . . so now I shall fight a righteous battle and repair to the domains

of Indra obtaining the companionship of those who have obtained to the highest bliss." (Maha. IX, 530).

It has been argued that at the time of the Rigveda, the *ksatriya* and *brahmana* classes were not hereditary (Majumdar, 1951 p. 390). But whereas mobility between warrior and farmer classes may have been considerable, the term *rajanya* means "men of kingly family" and would definitely indicate a royal caste rather than a class, while *brahmana* actually means "son of a brahman" (or priest) and would indicate that that role, also, although normally recruited from the *ksatriya* or *rajanya* class, had tended to become hereditary at an early date. There is, however, nothing in the Rigveda to indicate that marriage was endogamous within each of the three classes, although marriage with the *dasya* ("enemy," i.e., one of the indigenous population) was an entirely different matter.

Suppression of the Sudra

Representing a variety of racial types and different cultures, the aboriginal peoples do not appear to have impressed the Indo-Aryans, and the dark skin and "flat noses" of the conquered peoples came to be regarded with distaste, so that the Laws of Manu and other literature reveal what can be described as a racist attitude. Thus in the Rigveda, the term *varna*, or "colour," is used indiscriminately to refer to both Indo-European freemen and nobles, as *arya varna*, while only *dasyu-varna* or "aboriginal colour," "slave colour," is identified as a separate quality (Ghurye, 1955, p. 47) which, even if of symbolic character, indicates the continued existence of separate ethnic groups.

The term *dasa*, or *dasyu*, which the Indo-European speakers gave to these indigenous people, came to mean "life-long servant," or simply "slave," and describes the social and economic position to which these people must have been reduced by a steady process of conquest and submission. There is no indication in the Rigveda of ill-treatment of the enslaved *dasyu*, but as is so often the case in racist societies, *dasis* (female autochthonous slaves) were placed in concubinage, no doubt contributing to a fairly extensive genetic amalgamation between invader and indigenous population before the eventual emergence of a relatively strict caste system produced a complex network of "population isolates."

Extensive inbreeding over the next two thousand years within these sub-castes gave each a strikingly uniform racial appearance which can in no way be said to represent any original race type, but presumably represents a blend of original population admixtures on which selection and genetic drift has imposed a new and relatively stable genetic pattern.

Needless to say, after the rise of the caste system, inter-caste marriages were restricted, and in particular it was forbidden to cross the barrier between the "twice-born" Indo-Aryan derived castes and the aboriginal sudras. Manu states that a man who commits adultery with a sudra woman is to be banished, but that a woman committing adultery with a sudra male is to be "devoured by dogs in a public place." The guilty sudra is to be burned alive in straw, and if the woman with whom he has had intercourse is the wife of a Brahman, then he is supposed personally to amputate his own genitals before dying! (Manu, XXIII, 14).

Patriarchal System of Vedic Aryans

The family in Vedic India was clearly patriarchal, and the Rigveda (I, 24, 12, 15) suggest the absolute control of parent over children. Residence was generally patri-local, the wedding hymn in the Rigveda (X- 35) indicating that the bride expected to live in the same household as her brothers in law. From many references of this type we may assume that the household comprised an extended family of three to four generations (Ghurye, 1955, p. 45ff.).

Manu (VIII, 4) makes it clear that "a wife, a son and a slave, these are declared to have no property; the wealth which they acquire is for him to whom they belong," and also Narada (I, 42) "that is declared a valid transaction which is done by the senior or head of a family. That is not valid which has been transacted by one who does not enjoy independence."

Polygamy and concubinage were not forbidden, except in the case of the *brahmana*, for whom the type of marriage recommended was somewhat of the Roman "confarreatio" type, with a ritual pouring out of water, as also among the Roman patricians. On the other hand, marriage by capture was quite acceptable for the *ksatriya* or warrior class, Arjuna winning Subhadra in this fashion. But an alternative marriage for *ksatriya* is the *svayamvara*, marriage by mutual consent —

usually taking the form of the choice of the groom by the bride-to-be from amongst an assembly of suitors. Sita chooses Rama in this way, after setting the suitors a competition involving the bending of a bow. Echoes of *svayamvara* seem to be found in Teutonic folklore, where the king promises his daughter's hand in marriage to any suitor (in reality we assume these would have been handpicked) who will win a competition to be named by the princess.

Unlike other heroic societies, the seclusion of women appears to have set in early in India, and by the time of the Ramayana women were rigidly secluded from the view of strange men, being seen only at times of marriage, sacrifice or public calamity — this despite the fact that at the time of the Rigveda they still moved freely, and unveiled, everywhere (Sidhanta 1929, p. 160).

Polyandry has been much discussed in respect of the Indo-Aryans, but Draupadi is the only instance cited in the ancient literature, and the Mahabharata condemns this as shocking. De Vries (1963, p. 107) expresses the consensus of opinion that this was an aboriginal custom, and raises the question as to whether the Pandavas were actually aboriginal.

Polygamy (for *ksatriya*) was even advocated for the purpose of producing sons ("one son is no son" — Jantu III, 127), but monogamy later became more common and may have been the general rule, especially among the less wealthy. Women were chosen with a view to producing "quality" offspring as among the earlier Greeks, and the Sacred Laws of the Aryas (XIV, S. B. E. p. 7) provides us with the following quotation (also referred to by Zimmerman) which might well have been from the pen of a Greek of the sixth century B.C.;

"As the horse is valuable for its unblemished pedigree
Men marry wives from an unblemished family"

The Satapatha Brahmana makes it clear (III 96) that the wife's importance was in producing a son for her husband, but as a mother she was highly respected, and Manu (III 313, 60) says that "the mother is weightier than the earth."

Succession and Kinship

The importance of ensuring continuity of the lineage resulted in a form of levirate, known as *nyoga*, and the Rigveda (X 40, 2) and (X 18, 8) makes it quite clear that a childless

widow is required to cohabit with her brother-in-law until such time as a son may be born, so that her husband's lineage might be continued. No better evidence can be found of the dominant role of the trustee philosophy among the Indo-Aryans. The temporary nature of this obligation also makes it clear that the purpose of the levirate was not the maintenance of the widow, but the production of a son and heir, to be sired by the closest consanguineal kin of the deceased. The Rigveda (III, 16. 5) also indicates that the greatest poverty is to be without sons, the adoption of sons (presumably from within the kindred) was permitted in such instances (VII, 4. 7. 8.)

Except for the *nyoga*, the re-marriage of widows was frowned upon from the earliest days, and suttee was encouraged: (Ram. V. 26) "a wife who does not accompany her (deceased) husband leads an evil life."

Succession was by sons, not younger brothers, but bodily or mental defects might disqualify an individual from succession. On occasion, the father might retire before his death (to finish his life in ascetic contemplation) in which case the eldest son might be given the management (become the *karta*) of the extended family (E. R. E. Jolly, p. 737). Partition of the family into separate households could take place after the death of the house father — but even this would be unlikely if against the house father's wishes. N. C. Sen-Gupta believes, however, that "a clear distinction was made between the lineage and the household, and divisions did take place at regular intervals. The estate was then divided equally among the sons, a daughter did not receive a share as she was regarded as "the receptacle for the child of her husband'." (1952, p. 170).

Relatives were — and are still — divided into two main classes: the *sapindas* or near relatives between whom marriage was prohibited, who shared the ritual death impurity for ten days and participated in cake-offerings to the *pitras*; and the *samanodokas*, "persons sharing the water libations," a wider kindred which included all who bore the same ancestral name or were of proven relationship.

Ancestor Worship

At the time of the Rigveda, Ghurye believes that there was no individual ancestor worship and that individualized ancestor

worship only developed after semi-nomadism gave way to a settled pattern of life in which the recently dead were constantly in mind, sharing the house with the living. Until then the *pitras* or ancestors were worshipped as a collective whole (Ghurye 1955, 0. 43), and Ghurye also suggests that the *diva divali* festival of lights is associated with generalized ancestor worship of this kind. Kapadia also believes that the *sraddha* or individualized ritual for the past three agnatic ascendants (once again, as Ghurye points out, the emphasis upon three generations), appears only with the Atharvaveda which first refers to the *sraddha* as a family ritual (1955, p. 78).

Even though the warmer climate made the hearth fire obsolete — as a continuing, year-round symbol of family life — the fire god Agni retained an important part in sacrificial rituals. Not that the Indo-Aryan religion remained unchanged. The Hindu religion is very different from the original Indo-Aryan rituals, and von Furer-Haimendorf has shown how contact between Indo-Aryan and Hindu culture and other cultures of the sub-continent has been a two-way relationship. Nevertheless Indo-Aryan religion survived as a ritualistic, ethnic discipline and has never adopted the “universal ethic” of missionary faiths. Buddhism caught the imagination of the *rajanya* caste for a while in India, but finally lost the struggle with the brahmins possibly due to the important role which the latter had won for themselves in the family rituals.

It would seem probable that like the other early Indo-European speaking peoples, family rituals and ancestor worshipping cults were originally conducted by the head of the Indo-Aryan household, acting as his own priest, just as the Indo-Aryan king presided at the family-state *rajansuya* sacrifices. But the institutionalisation of religion — following the common trend of heroic societies, gave the brahmins the opportunity to insinuate themselves into family cults, every prosperous family employing its own “chaplain” or *purihota*.

Maintenance of Order

Disputes between families were settled by a system of fines which were derived directly from the composition of blood feuds, and although we find little evidence of the blood feud or wergild in Iranian culture, the surviving element among the early Indo-Aryans is evidence of its antiquity among satem

speakers.

Feuding was rigidly controlled, but a modified wergild survived which was called *vairadaya*. ¶The man who slew a *ksatriya* had to pay 1000 cows (Baudhayana, I, 10. 19.) not to the injured kin, however, but to the king — and a bull had to be given to the brahman. A *vaisya* was worth 100 cows, and a sudra only 10 cows (Sidhanta 1929, p. 143). This *vairadaya* had to be found by the relatives of the deceased, even though kindred did not share in the fines paid to the king.

One of the most ancient roles of the king was that of supreme magistrate and interpreter of law and custom. He was the final voice in deciding litigation (*vyavaharu*) but again with increasing complexity we find the king being assisted by appointed deputies and by a system of local *kula* courts.

Another common Indo-European legal practice was the use of trial by ordeal. As the *Chhandogya Upanishad* said (VI. 16, 1-2) “truth has the power of saving a man even from death.” It would seem that, like the Iranians, the Indo-European peoples who employed trial by ordeal believed that truth possessed a supernatural power, a sort of mana, akin to that which pervaded everything that was real, and that those who spoke the truth would somehow be protected by it. The lie, on the contrary, represented the unreal, and possessed no protective mana.

In the course of time, the indigenous social, cultural and religious traditions of the many diverse aboriginal peoples of India, and especially of the old Indus Valley civilization, were assimilated into the old Indo-Aryan culture to form the basis of popular Hinduism. The India of the past two thousand years is not the same as the India of Vedic times — but the linguistic, literary, moral, religious and social traditions of the Aryans, nevertheless left a rich and possibly dominant influence on the heritage of that populous, civilized and ancient sub-continent.

Indo-Aryan society was thus eventually to develop its own unique forms, borrowing much from the ancient customs and beliefs already firmly entrenched in the minds of the indigenous peoples. The record of acculturation can be traced clearly from the changing tone and emphasis of the Sanskrit literature even within the first five centuries of Indo-Aryan settlement in this rich and exciting sub-continent. Although the folklore

of India can in some instances be paralleled from the folklore of Europe, indicating common traditions, the presentation and style becomes entirely different, as the relationship becomes more distant in time as well as space.

REFERENCES

- Bosch-Gimpera, P.
 1961 Les Indo-Européens Problèmes Archéologiques. Paris.
- Burrow, Thos.
 1955 The Sanskrit Language. Faber & Faber, London.
- De Vries, Jan
 1963 Heroic Song and Heroic Legend. Oxford U. P. (1959).
- Engels, F.
 1942 The Origin of the Family, Private Property, and State. International Publishers, N. Y. (1884).
- Furer-Haimendorf, C. von
 1955 Culture History and Cultural Development. *Yearbook of Anthropology*, 1: 149-168.
- Ghurye, G.S.
 1955 Family and Kin in Indo-European Culture. Oxford U. P.
 1961 Caste, Class and Occupations. Bombay, Popular Book Depot.
- Gimbutas, Marija
 1952 On the Origin of the North Indo-Europeans. *American Anthropologist*, 54: 602-610.
 1956 The Prehistory of Eastern Europe, Part 1. American School of Prehistoric Research, Bulletin No. 20, Cambridge, Massachusetts.
 1963 The Indo-Europeans: Some Archeological Problems. *American Anthropologist*, 65: 815-836.
- Jolly, Julius
 1928 Hindu Law and Custom. Greater India Soc. Calcutta.
 1961(a) Hindu Family.
 1961(b) Hindu Law. Hasting's Encyclopaedia of Religion and Ethics. Charles Scribner, N.Y.
- Majumdar, R. C.
 1951 The Vedic Age. (Ed.) Bharatiya Vidya Bhavan, Bombay.
- Mommsen, T.
 1908 The History of Rome. Translated by W. P. Dickinson. Charles Scribner's. N.Y.
- Müller, Max
 1869 Chips from a German Workshop. Charles Scribner & Co., N.Y.
- Palmer, L. R.
 1955 Achaens and Indo-Europeans. Oxford U. P.

Rostovtzeff, M.

1922 Iranians and Greeks in South Russia. Oxford U. P.

1963 Out of the Past of Greece and Rome. Biblo and Tannen, N.Y.

Sen-Gupta, N. C.

1952 Evolution of Ancient Indian Law. Arthur Probstain, London.

Sidhanta, N. K.

1929 The Heroic Age of India. Kegan Paul, London.

Weber, Max

1950 General Economic History. The Free Press, Glencoe (1927).

1957 Theory of Social and Economic Organization. The Free Press,
Glencoe (1922).

1967 The Religion of India. Free Press, N.Y. (1958).

Wheeler, Sir Mortimer

1953 The Indus Civilization. Cambridge U. P.

THE ETHNOLOGY AND GENEALOGY OF CORSICA AS REFLECTED IN OFFICIAL REGISTERS

RENE M. NICOLI in collaboration
with JEAN F. BARBOU

The village of Scanafaghiaccia in the crystalline area of Corsica is an example of an endogamous isolated habitat. Unfortunately, although birth and marriage registers have been kept, the tracing of genealogy is not easy.

There are many isolated habitats in the hilly parts of Corsica, not only because of the difficulties of communication in such rugged country but because of their agrarian activities, which bound to the soil human nuclei sticking to a few hectares of bad land painfully gained from the “maquis” and transmitted from generation to generation within highly structured families. Their social structure was generally thought to have dated from as early as the great reform of Sambuccio D’Alando (1358). Little is known of this almost mythical character, though it is likely that the rebellion of the common people against the feudal lords was stirred by the Genoese Republic and that there never existed a “democratic constitution” such as many Corsican enthusiasts deem fit to pretend. However this oversimplified story has to be corrected.

The traditional division of Corsica is as follows:

La Terra Del Comune: this is the common land of the Cismonte, that part of the country which lies on the eastern side of the mountains. It is roughly the country centered on Bastia, and is the common land of the transhumming shepherds.

La Cinarchese, of the Pomonte or the part of the country lying beyond the mountains, is roughly the country centered on Ajaccio. It has belonged to many sedentary small farmers ever since feudal privileges were abolished. Hence there has arisen a political, racial, and ethnical opposition between the shepherds and the farmers — between the Cismonte and the Pomonte. Even to this day this opposition has persisted, unchanged by centuries of history: Ajaccio represents Napoleon, Bastia represents Pascal Paoli, who was born in Morosaglia, in the part called Castagniccia. (1)

(1) Since 1976 Corsica has been divided into two “departements” which correspond roughly to the old divisions of Cismonte and Pomonte, namely Haute Corse, with chief town Bastia, to the north and east, and Corse du Sud, with chief town Ajaccio, to the south-west and south.

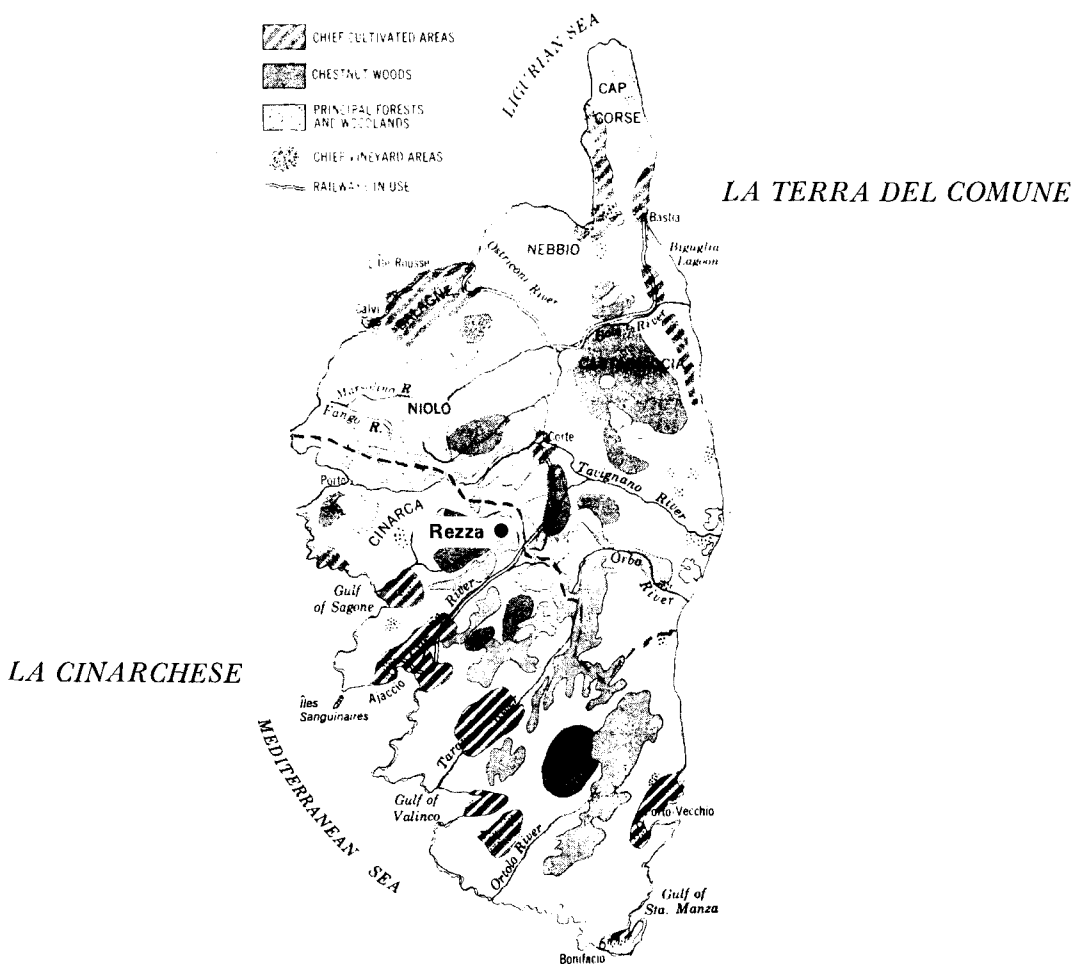
This opposition, extending to the field of mating, has resulted in highly consanguine, endogamous, isolated habitats in the centre of the island and a still noticeable clan-like structure. We cannot, in this paper, deal with the dynamics of the populations from the Island. No real work has apparently been done on this subject and historians have not yet grasped the biological implications of the facts they relate. However we can say that the traditional division of Corsica is still relevant today: on Terra Del Comune, the greatest part of the land still belongs in common, whereas elsewhere it is private property, although extremely divided through the absence of a birth-right.

The village of Scanafaghiaccia, today called Rezza, cannot be traced any further back than the XVIIIth century. The boundaries were delimited by the royal ordinance of 11th June 1823. It is a village of the Cinarchese, and lies in the valley of the stream Cruzzini, an affluent of the river Liamone — all now part of the canton of Salice. A small torrent, the Cava, separates the village from the village of Pastricciola, almost the whole of which belongs to the Terra Del Comune.

Scanafaghiaccia itself is a village consisting of scattered hamlets lying on some foot-hills (i poggi) of a medium altitude (300 - 600m). We may note the former old hamlets of Parsichello and Baronchello, Scale, Chiappa, Gabia, Muriccie, Rezza, Scanafaghiaccia, Piane (on the north side); the more recent hamlets (circa 1870) of Nocichie and Nivala; and other even more recent hamlets such as Casanova and Quichiolo, no doubt indicating movement of the population through the years.

The village has expanded mainly along the one mule track from Tavera on the Gravona to Guagno on the Liamone. The road between the Cruzzini and the Gravona valleys, through the pass of Tartavello (900m) and Vero, dates from the beginning of this century and the way to the sea by Lopigna only from the 1960s. There is no road, yet, crossing the pass of Oreccia (1453m) towards the Grottaccia valley, in the water system of the river Tavignano.

According to oral tradition, the people had come from a former village, San Pietro, which was higher (1000m); they were forced to move down by a spell of severe winters. They probably moved down in the XVth century and founded the Parish of San Nicolao, now divided between the Parishes of



Rezza and Azzana. It is interesting that Scanafaghiaccia is an almost unexamined megalithic site and Azzana is a neolithic area.

Hailing as we do from these parts, we thought it relevant to study as faithfully as possible the history of this community. A great help for this study has been access to the parish registers. In 1953-1955 we were able to transcribe the complete records of Scanafaghiaccia from their beginning in 1824.

Transcription was no easy task, the registers being either in vernacular Italian — from 1824 to 1843 and from 1849 to 1866 — or in French, but they revealed 1003 birth entries, mentioning the filiation, including the parents' age, the sex, and quite often the hamlet. There are also 245 marriage entries, usually giving also the spouses' date of birth; 822 death entries, with, for the older entries, the cause of death, the filiation, the age or the date of birth of the deceased, and 22 stillbirth entries.

We also have at our disposal a name census carried out by ourself in 1954. It numbers the sedentary population of the village and excludes the migrants, who too often out of a political interest, for the sake of the vote, are taken in their native village. The figure amounts to 132 souls, namely 32 men, 69 women, 31 children under 15. This figure may be compared with one of 331 inhabitants recorded in 1880; it shows the serious depopulation of these endogamous centres. (2)

Such were the basic materials for the "Survey on the evolution of the Rezza population" that we planned. Neither this work, of 20 years ago, nor the sero-anthropological studies extended to the whole of Corsica, (3) have been completed.

Patronymics

In Corsica there are not many patronymics. It was the Count de Marbeuf, military governor of French Corsica, a cultured and courteous man from Brittany, who, around 1770, asked the Corsicans to choose a patronymic. Formerly, the Islanders called themselves by a Christian name, by the name of their "clan" (rather like the Latin *gens*), by the use of a surname, by a nickname or sometimes by the indication of their hamlet

(2) Ad. Joanne, *Géographie du département de la Corse*, 1880.

(3) Cf. the thesis of our pupil P. Sermet, *Etudes sero-anthropologiques des populations corse*. Thesis for a D. Sc. CNRS No. AO 1 0636 (Marseilles 1974).

of origin. When they had to choose a patronymic, they used, then, several methods: adopting the name of a patron saint — almost the rule at Scanafaghiaccia — bringing a nickname to the dignity of a patronymic, or taking a geographical name. Since that time, the same patronymic may be used by two or more families of different origin; indeed, there are many instances of this.

In Scanafaghiaccia, if we consider the birth entries only, we notice among the first hundred (1824-1899) only 13 patronymics, the Cerati being the most numerous (35), followed by the Marcangeli (16), the Nicoli (15) and the Patacchini. Among the last hundred (1922-1954), there are 30 patronymics, the Nicoli being now the most numerous (18), ahead of the Marcangeli (12), the Battesti (6), and so on. Without going any further, we deduce a noteworthy evolution during one century, with the appearance of new names, those of immigrants.

A marked dispersion of the native people has occurred, while others were coming in, often subjects of Italian origin. Hence a real dilution of the endogamy took place and it will be necessary to give precision to this study to find the dates when the immigrants arrived.

The patronymics are, of course, inherited according to the French custom, the women taking their husbands' names and dropping their own. Natural children alone inherit their mother's name. These are far from exceptional, about one sixth of all births being officially reckoned as illegitimate. It follows that some people have their father's name, and others their mother's, resulting in inevitable confusion.

Christian Names

Whether Corsican, Italian, French or Frenchified, the Christian names given are also few. There are in consequence frequent homonyms (identical patronymic and Christian name).

It then becomes an arduous task to study and analyse the documents. Quite often within a family the same male and female Christian names recur through the generations. Also, it is not unusual for all the female children in one family to be named Maria or Marie. So that they can be distinguished apart they are given a second, hyphenated Christian name: Maria-

Dumenica, Maria-Laudea, Maria-Francesca, Maria-Gaetana, Maria-Saveria, Maria-Filippa, Maria-Giovanna. . . (4)

When the registrar has written Maria for short, the searcher is faced with an almost insoluble problem.

On the other hand, homonyms in speech are sometimes distinguished in the records by an extended form of the name: thus Nicoli Giovanni Di Mignoni, i.e. Giovanni (Jean) Nicoli from the Mignoni family, a surname not elsewhere registered; Nicoli Giovanni Di Gabia, Giovanni Di Rapinte, from the surname of an XVIIIth century ancestor whose identity we do not even know. For the observer of today, there is evidently cause for confusion and uncertainty concerning identification of some of these types of names.

Death Entry

Death entries are often missing in Cinarchese, because emigration started as early as the time of Napoleon III. The endogamous centre loses men who find women elsewhere. In fact the dispersion is essentially a male one. The girls stay in the village and many do not procreate through lack of a husband. A few entries of suicide among girls of 18-20 no doubt reflect the deep despair of those souls.

From the mid XIXth century women (and particularly unmarried mothers) went away for their children's birth, usually to the Eugenie Hospital in Ajaccio, where the birth was registered, though the mother and child returned to the village and resumed their place in the community. The registers seldom give any mention of such movements, and death entries do not record the place of birth.

Other Indications

The registers, however, provide us with further information. Marriages are not the only fertile unions. If the illegitimate nature of a birth is no problem, the record usually states "natural child" or X child of Y, an unmarried mother. It is out of the question, apart from one exception, to mention the adulterous nature of a birth. As far as we can notice conjugal faith was not any stricter in the past than nowadays; con-

(4) The name Maria is added by respect to the Church, the real forename being the second. This custom is therefore different from the frequent use of 'family' Christian names.

sequently, about a quarter of the entries register incomplete information on filiation. This is an enormous percentage that makes research proportionately more difficult. We have even noted some obliging fictitious entries made to obtain some social advantage and also one entry assuming the death of one who disappeared from his home and was never found. By way of comparison we may note, in a survey made in Marseille, that of 851 children born of 404 mothers, 504 children were born in wedlock, 43 were born in concubinage and there were 304 natural children. (5)

This kind of genealogical work, is time consuming and best done by a native of the country. We expect to lighten the task by using a computer.

The consanguinity of such endogamous isolated habitats appears to be stratified and subject to evolution. Such concepts are beyond the reach of the layman and even of many anthropologists who deal more in terms of individuals or of ethnologists who are interested in cultures. Yet it is the consanguine unions which justify detailed analysis in the hope of throwing new light on a little appreciated aspect of mankind.

Summary

The evolution of endogamous isolated habitats has been shown to be possible by a study of the registers, dating from 1824, of the village of Scanafaghia (now Rezza) in the hills of Corsica. The difficulties of interpreting the demographic evolution of the village include frequent homonymy, and incomplete or inaccurate entries. Often, the registers provide only limited information on true filiation, especially in the case of illegitimate births, which are separately recorded. It is believed that, in spite of imperfections in the record, it will be possible to establish accurately the endogamous profile of the Parish and its evolution.

(5) R. M. Nicoli, *L'Univers de la sexualité*, Paris, Resma, 1970.

* We are much indebted to the late Mayor of Rezza, our father-in-law, Monsieur Xavier Cerati, whose memory we praise, for his assistance in our undertakings.

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OBESITY AND SOCIAL CLASS

T. SIDDAMMA

Obesity is one of the easiest of all disorders to diagnose but one of the most complicated to define. There is the often expressed fear that the fat baby is on a programmed path to adult obesity, atherosclerosis and early mortality. The role of income in the choice of food is obvious but the social and psychological influences are more complex. Simple standards of "overweight" cannot be applied from one society to another or from one income level to another, as the level of fatness varies with socio-economic status, and similarly may differ between sexes at the same socio-economic level (Garn et al. 1970). A study in New York (Moore et al. 1962; Goldblatt et al. 1965) showed obesity to be more common among women in the lowest social class than in the highest social class, but while the association was less striking among men, obesity was six times more among women of low status when compared to women of high status. Another study based on 3,344 measurements of Triceps skinfold thickness, found the prevalence of obesity to be nine times greater in the lower socio-economic levels than in those of upper levels, although less marked in the case of young boys of either lower or upper income groups. (Stunkard et al. 1972).

Similar findings were reported in a study in London (Silverstone, 1970), where Silverstone reported the prevalence of obesity to be almost twice in the lower class women to that of upper class women based on a random sample of 391 women aged from 20 to 59 years. The author explained that the upper social class women of London adopt dietary measures to counteract the tendency to put on weight with the increase in age and this was supported by McKenzie (1967), who similarly found that women in the upper social classes dieted more than those in the lower classes. On the other hand, while German women were found by Pflanz (1962) to reflect the same habits, the wealthier German men were reported to be significantly heavier than women of the same class and it was suggested that German men were subjected to less social pressure, indeed, corpulence may still be a potent symbol of prosperity. In

India the affluent women as well as men tend to be fatter than the non-affluent men and women (Gour and Gupta, 1968 reported by Silverstone 1970).

In America, Garn et al. (1970), reporting on a survey of a very large series of people from infancy through old age, concluded that the poor were the leanest and the more affluent were the fattest, and that this generalization was true for boys and girls whether income or parental occupation was the measure. The findings were supported by the Ten State Nutrition Survey from 1968-1970 (reported by Garn et al. 1974, 1976), which was concerned with both under-nutrition and over-nutrition. The fat fold data on more than 40,000 individuals, revealed that fatness of males was consistently related to income of both black and white males at all ages, whereas in females it was negatively correlated. Garn stated that it was a logical assumption to hypothesize an income-related effect on adult obesity, whether due to simple economic factors like more money, more food on a habitual basis, or the early induction of fat-cell size, to the effect that the poor would be the leanest, and the more affluent would be the fattest. However, this rule was not consistent for women, and hence he concludes that a fat child is not necessarily the antecedent of a fat adult. The adult data of U.S.A. Ten-State Nutrition Survey of 1968-1970 confirmed this income-related reversal of fatness among women. As in Britain poverty-level women were systematically fatter than those of median income. Garn et al. (1974) reasonably concluded that it is incorrect to assume that fatness (and obesity) in poor women is a function of a dietary or nutrient density. The authors concluded that among the American poor there appear to be fewer social sanctions against eating and fatness in females. At successive strata of the income levels the impact of mass media attitudes opposed to feminine fatness seemed to be maximal and resulted in a negative correlation between fatness and income among American females.

Obesity in Chittoor

The fact that obesity is influenced by cultural rather than purely dietary or economic conditions is further illustrated by the following study carried out in the urban area of Chittoor District in Southern India.

Sample: Three hundred and fifty five children (155 boys and 200 girls) between 9+ and 11+ years in 58 secondary and higher secondary schools.

Pictorial Rating Scale (PRS): The PRS consisted of three contour outlines of Non-obese (NO), Mildly obese (MO) and severely obese (SO) child, reduced to standard comparable dimensions, (10 cm. x 10 cm.) but the outline clearly indicated differences from the lean to fat, (stout). The PRS was designed for quick screening of the children in the chosen area.

Anthropometry: Standing height and Body weight (BW) were measured using the standard height weight machine. To measure the skinfold thickness of both triceps and subscapular, Harpender skinfold calipers were used.

Triceps Skinfold: The site at which calipers applied was half way between acromial process of the scapula and olecranon process of the ulna with arm flexed at 90°. The location was marked with a marking pen. The TS was measured by lifting the fold parallel to the long axis of the left arm with the arm hanging freely (Jelliffe., 1966). Three readings were recorded and the average constituted an individual TS measure.

Subscapular skinfold: The subscapular skinfold (SS) was picked up just below the angle of the left scapula with fold in a vertical line, in the natural cleavage line of the skin, (Jelliffe, 1966). Three readings were recorded and the average constituted the SS measure.

Method: The following procedure was employed as a first step to identify different grades of obesity in children. The PRS on which three contour lines of NO, MO and SO child were presented, was given to three selected teachers of the school and they were asked to identify the children in their class who were similar to any of the three figures presented on the rating scale. Teachers were requested to write down the names of such children in the class under appropriate pictures. In addition the investigator (author) too did the same. Ratings were pooled and NO, MO and SO children were identified on the basis of the criterion of 75% and 100% agreement among raters. The children who satisfied the criterion of agreement were constituted the selected sample. The purpose and usefulness of the PRS Technique was explained in detail elsewhere by the author (1977). The standard instruments of anthropometry were carried to the schools of the constituted sample

and the following measures were obtained.

1. *Standing Height*: Height (Cm) crown to heel with bare foot.
2. *Body Weight*: Weight (Kg) with bare foot and usual clothes on.
3. *Triceps Skinfold and Subscapular Skinfold*: Triceps and subscapular skinfold were measured following standard procedure already described. Because the values obtained with the skinfold caliper give a markedly non-gaussian frequency distribution it is necessary for most purposes to transform then to a log scale before use. The most appropriate transformation, which serves reasonably well for all sites and ages and both sexes is:

Skinfold transform = $100 \log_{10}$ (reading in 0.1 mm - 18)
(Edwards et al., 1955 reported by Tanner, 1975).

The Triceps and Subscapular values were appropriately transformed into log values.

Social Class: Social class was determined using the socio-economic scale developed (Kuppuswamy, 1962) on the component variables namely parents' education, income and occupation. Every child in the sample was assigned to the social class level using the socio-economic weighted score.

Results and Discussion

The relative accuracy of visual ratings were studied and it was found that valid differentiation of obese children is possible by trained observers, (Rauh & Schumsky, 1970). The related techniques by visual ratings were found to be better than the traditional height-weight ratio. The PRS was also shown as dependable in screening obese and non-obese children (Siddamma and Venkatramaiah, 1977). It is reasonable to expect social class to have a greater influence on the incidence of obesity.

The results of the studies conducted in Western countries have revealed greater incidence of obesity among the lower levels of social class, (Silverstone, 1970, Garn et al., 1974). One reason given to explain such findings is that people in upper socio-economic groups are more conscious of their weight because of social disapproval of overweight and their knowledge of its hazards. In India, however, such a situation does not exist. Food and the ritual of eating still has a special

Table 1. Obesity among different social classes

Social Classes	Non-obese			Mildly-obese			Severely obese		
	Boys %	Girls %	Difference	Boys %	Girls %	Difference	Boys %	Girls %	Difference
I	3	0		8	0		76	60	16
	(2)			(4)			(26)	(21)	
II	24	30		50	9		24	40	
	(18)	(24)	6*	(23)	(8)	41*	(8)	(14)	16
III	32	59		38	50		0	0	
	(24)	(47)	27*	(18)	(43)	12			—
IV	41	11		4	41		0	0	
	(30)	(9)	30*	(2)	(34)	37*			
Total	100	100		100	100		100	100	
n	(74)	(80)		(47)	(85)		(34)	(35)	

*P < 0.01 Significant.

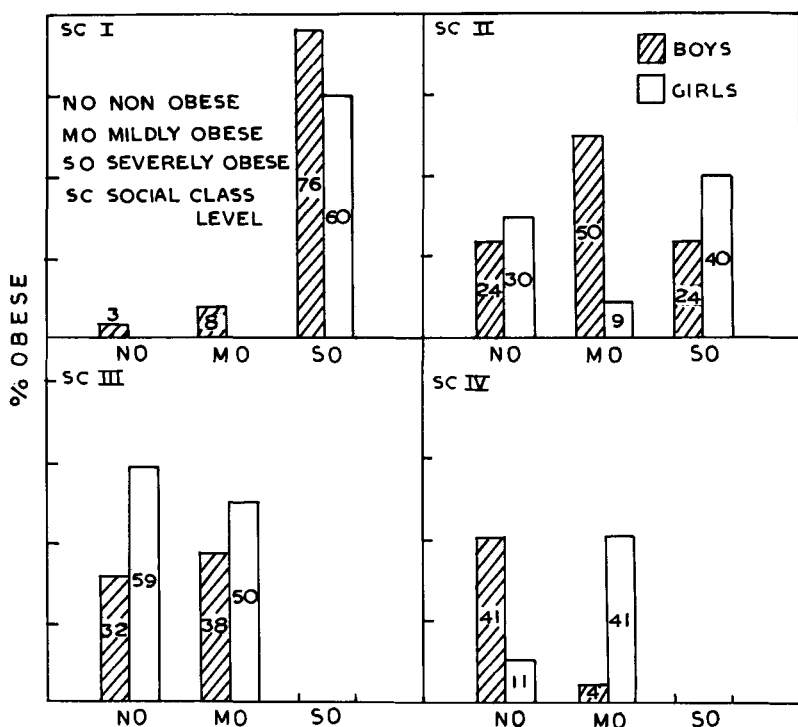


Fig. 1: Distribution of obese children among the social classes of Chittoor District

prestigious significance, even in the upper strata of society. Social attitudes to overweight in India are not comparable to those in the Western countries, and we must expect our results to show entirely different trends. Table 1 and Fig 1 show the distribution of obese individuals between the sexes and across the social class levels. It may be seen that out of the sixty nine obese children 26 boys and 21 girls (76% and 60% respectively) come from social class level I. The remaining eight boys and fourteen girls (24% and 40% respectively) come from social class level II. When we look at Table 1 it indicates that there is a preponderance of severely obese among Social classes I and II but no such preponderance among Social classes III and IV, whereas the percentage of Non-obese are found to be high in Social classes IV and III and much less in social classes II and I.

A significant ($P < 0.01$) positive correlation between income

and three variables: body weight, triceps skinfold and subscapular skinfold (Pearson's $r = 0.46, 0.88$ and 0.66 respectively) confirms the income related effect on obesity. The findings in the study are in contradiction to the observation of income reversal fatness applicable to the U.S.A. (Garn et al. 1974). At the same time the results confirm the findings of Gour and Gupta (1968) that both boys and girls of the upper social class are fatter. When we compare the present findings with that of Western studies we could observe that in Western countries the rich are leanest and the poor are fattest, because of the awareness of dietary precautions among rich. In India it seems the rich are fattest and the poor are leanest. The reason may be due to a general unawareness of excess of fat, but more likely to the fact that there is an increase in the availability of food with increase in the income level, and also that upper social class levels take less exercise. Further we must not rule out the possible effect of a traditional correlation in the public mind between obesity, prosperity, and prestige!

REFERENCES

- Edwards, D. A. W., W. H. Hammond, M. J. R. Healy, J. M. Tanner and R. H. Whitehouse
1955 Design and Accuracy of Calipers from Measuring Subcutaneous Tissue Thickness, *British Journal of Nutrition*, 9; 133 (reported by Tanner 1975).
- Garn, S. M. and D. C. Clark
1974 Economics and Fatness, *Ecology of Food and Nutrition*, 3; 19-20.
- Garn, S. M. with D. C. Clark and K. Guire
1970 Growth, Body Composition and Development of Obese and Lean Children. A text from M. Winick, *Childhood Obesity*, John Wiley & Sons Inc.
- Garn, S. M. and D. C. Clark
1976 Trends in the Fatness and the Origins of Obesity, *American Academy of Pediatrics*, 57; 443-455.
- Garret, H. E. and R. S. Woodworth
1969 Statistics in Psychology and Education, Valkils, Feffer and Simons Pvt. Ltd.
- Goldblatt, P. E., M. E. Moore and A. J. Stunkard
1965 Social Factors in Obesity, *Journal of American Medical Association* 192; 1039-1044.

- Gour, K. N. and M. C. Gupta
1968 Social aspects in India, *J. Ass. Phys.*, 16; 257-261.
- Jelliffe, D. B.
1966 The Assessment of Nutritional Status of the Community. World Health Organization Series No. 53, Geneva.
- Kuppaswamy, B.
1962 Manual for Socio-Economic Status Scale (urban), Manasayan, New Delhi.
- McKenzie, J. C.
1967 Profile on Slimmers, Commentary, 9; 77-83 (reported by Silverstone, 1970).
- Moore, M. E., A. J. Stunkard and L. Srole
1962 Obesity, Social Class and Mental Illness. *Journal of American Medical Association*, 181; 962-966.
- Pflanz, M.
1962 Medizinisch-Soziologische Aspekte der Fettsucht. *Psyche*, 16; 575-591 (reported by Silverstone, 1970).
- Rauh, J. L. and D. A. Schumsky
1975 Relative Accuracy of Visual Assessment of Juvenile Obesity. *Journal of American Dietetic Association*, 55; 49.
- Siddamma, T. and S. R. Venkatramaiah
1977 An Index for Measuring Obesity in Children. *Indian Journal of Pediatrics*, 44: 121.
- Silverstone, J. T.
1970 Obesity and Social Class. Recent Research in Psychosomatics, 18: 226-230.
- Tanner, J. M. and R. H. Whitehouse
1975 Revised Standards for Triceps and Subscapular Skinfololds in British Children. *Archives of Disease in Childhood*, 50: 142-145.

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BOOK REVIEWS

THE LIMITS OF ALTRUISM: AN ECOLOGIST'S VIEW OF SURVIVAL
By Garrett Hardin, Indiana University Press, Bloomington and London,
1977. Pp. 154. Price \$12.00.

Author Garrett Hardin, distinguished Professor of Human Ecology in the Department of Biological Sciences at the University of California at Santa Barbara, has written extensively in the fields of biology, genetics, evolution, and the problems of pollution and population control. His books include *Biology: Its Human Implications*, *Nature and Man's Fate*, and *New Ethics for Survival*, and he is author of the influential article on overpopulation, "The Tragedy of the Commons," which appeared in *Science*.

In this latest work he takes the view that pure altruistic behavior is, from the evolutionary viewpoint, the dream of a compassionate people — but one which is essentially unrealistic in the long run.

His principal argument rests on the belief that we cannot expect people to act against their own self-interest, and on the fact that every geographic area has a certain carrying capacity. If the number of people in an area exceeds that carrying capacity, in less serious cases the standard of living goes down, in extreme cases starvation results. Hardin poses the question: which do we want, the maximum number of people at the minimum standard of living, or a smaller number at a comfortable, or even gracious, standard of living?

Hardin points out that no civilization has ever recovered after ruining its environment. If our present civilization were to fall apart, as a result of nuclear warfare or a severe population crisis, we could not pick ourselves up and rebuild a technological society. He also believes that we need a different approach to poverty than our present-day foreign aid, that each nation must accept responsibility for adjusting its population to its carrying capacity of the land. The wealthy nations of the world will do little good until they recognize that the greatest gift they can give a poor country is the knowledge that it is on its own. Population control, home-grown, is the greatest need.

The author examines and rejects the idea of a supranational

organization: "One World, once achieved, offers no payoff for altruism." For the unrealistic and dangerous idea of One World we should substitute a determination to learn how to live (but live better), as humankind has always lived, in a world divided into the not-too-large groups we call nations, "within which the psychological satisfactions of a limited altruism can be safely enjoyed." This is a brilliant humanist's intelligent, lucid, and challenging summary of his social philosophy.

Hardin has written a book which is of broad interest to sociologists, to ecologists, to political scientists and even to social and ethical philosophers.

SONS OF THE ROMANS

By H. W. J. Edwards. Christopher Davies, Swansie, 1975. Pp. 175. Price £2.50.

This book is an exposition of Tory nationalism in the context of Wales, but as it is not only nationalism, it has a relevance to ethnology and applied ethnology.

The foreword is by Mr. Enoch Powell, who says that Mr. Edwards "knows and is unafraid to say that nations are about many things, but some of the chief of these things are language and — like it or not — race (whatever that may precisely be); that the remote past, and not simply the political past of the last century or so, is the key to the nature and identity of nations; and that a nation and its land are inscrutably but firmly interdependent."

Not afraid to speak honestly and with integrity about subjects often regarded as "unspeakable," Mr. Edwards writes: "While I regard a Negro and a Red Indian as my equal before Almighty God, I am a racist in so far as I believe that a just system of separation of races or nationalities may be good."

When reading this work one notices again and again a quality of writing which one associates with the nineteenth century — a delightful contrast to the slipshod style of the twentieth century.

The book is corrective to much of modern political thinking, and particularly as concerns "the people." All the numerous

threads of thoughts which have gone to make Welsh history, culture and thought are analyzed, and the result is a superlatively entrancing book.

Among the many asides made by Mr. Edwards are such as "illiteracy is not always a bad thing." This is a truth which is little understood in these days. It was very apparent to me in Sicily, during the late 1940's where in a village market-place, a crowd of "illiterate" men could often be seen listening to a woman reciting the ancient classics.

BORN PRIMITIVE IN THE PHILIPPINES

By Severino Luna. Southern Illinois University Press, Carbondale, Illinois, 1975. 18 illustrations, Pp. 160, Price \$8.95.

Severino Luna's unique account of daily life in primitive Philippine culture today covers a five-year period in the life of a Buhid teenager. The Mangyan, the ethnic group to which Bag-etan, the Buhid teenager belongs, are believed to be the aboriginal inhabitants of Mindoro. In the Siangi river area of Mindoro, with which the book largely deals, the Mangyan may be found living contiguous with the Tagalogs, Ilocanos, Visayans, and other migrants.

Severino Luna, a native-born Filipino who first met the Buhid boy when he was 14, tells how Bag-etan, who is now 22, is not entirely removed from the G-string culture. When we first meet him he is an adolescent, recently escaped from enslavement, and just adopted by the chief of the Mangyan settlement.

The book gives details of his friends and girl friends, the attendance at feasts and funerals, the building of huts, planting areas, harvest crops, and the snare animals. The book gives a knowledge of community law, forms of punishment and reward, and insight into superstitions.

The Mangyans are the only group in the Philippines who have a written language. This is thought to be Indic in origin, possibly with ties to the Mediterranean. It is formed of phonetic characters and is believed to have an antiquity (if these pre-suppositions are correct) of some 3000 years.

HUMAN ADAPTABILITY: A HISTORY AND COMPENDIUM OF RESEARCH

By K. J. Collins and J. S. Weiner. Taylor and Francis Ltd. London, 1977. Diagrams and tables. Pp. 356. Price £15.

This is an account of the history and development of the Human Adaptability section of the International Biological Programme (of the International Council of Scientific Unions), and surveys some 250 national and international field investigations. An outline is given of each study, ranging from topics such as "Population Study of the ABO Blood Groups and Other Polymorphisms in Relation to Disease"; "Study of the Damas of S.W. Africa"; to "P.T.C. Taste Testing in the D.D.R. Population."

This is an invaluable work replete with abstracts of papers dealing with all branches of human biology.

EXTINCTION AND SURVIVAL IN HUMAN POPULATIONS

By Charles D. Laughlin Jr. and Ivan A Brady (editors). Columbia University Press, 1978. Numerous maps and table. Pp. 327.

In the paper by Colin M. Turnbull on the Ik of Uganda we learn that: "Until a child reaches the age of two, mothers could be very rarely seen to fondle their children with affection, but after that never." We also learn that in the Ik languages (as in some other African languages) the word for "love" is the same as for "want" or "need": ". . . love can have no meaning if there is nothing to share and so no possibility of sharing." (p. 62). Charles D. Laughlin, Jr., writes on the .So, a small Uganda tribe related to the Ik. John Cawte deals with "Gross Stress in Small Islands," discussing insular life off the coast of Australia, where survive some of the last group of aboriginals to come into contact with the white man. It is also interesting to note that these small island communities are highly inbred, as may be expected, with resultant genetic segregation. Thus the Kariadilt reveal no A blood group, while the nearby Lardil of Mornington island are rich in this group.

Robert Dirks gives a good account of the historical basis

of slavery in the British West Indies, where this system displaced the system of indentured labour and small white-owned yeoman farms as a result of the heavy demand for labour in response to the rise of sugar. From the account given of slavery (pp. 130-135), it would appear that food was adequate and that the early slaves had articles to sell and buy in the markets, and that they may not have been much worse off, economically, than workers in Europe. On the Dominican estates, the slaves had a food ration of 3000 calories a day, although in other areas, Dirk found that some slaves suffered from malnutrition, at least for parts of the year, and that beri beri was common. While hurricanes and droughts brought starvation or near starvation conditions to the islands from time to time, natural disasters cannot be blamed on the slave-owners. They would have had the same impact on any agricultural laboring population at that date.

The book is a useful discussion of the problem of human survival. Unfortunately the language in which it is written is sometimes tortuous, and could have been simplified by being written in standard English.

WE, THE NAVIGATORS: THE ANCIENT ART OF LANDFINDING IN THE PACIFIC

By David Lewis, University of Hawaii Press, Honolulu, 1975. Pp. 348, 63 illustrations. Price \$4.95 (paper back).

Dr. Lewis staged a Polynesian voyage with the 40-foot catamaran *Rehua Moana*, to retrace the navigational methods of the Maoris from Tahiti to New Zealand, a distance of 2239 miles. He also knows the Pacific waters from voyages in a ketch.

In this book he defends the traditional view that the Pacific islanders came from southern Asia, and that Thor Heyerdhal is wrong in tracing elements from American origins.

Considerable alteration is given to the methods of navigation among the Pacific islanders, by the stars without compass. They virtually used a "star" compass — working their directions by the stars. Some of the vessels were formed from as many

as five canoes side by side with two masts and cabins built on board.

Archaeological excavations at Nuko Hiva in the Marquesas have shown that the western Polynesians arrived there early in the Christian era, well before the colonisation of Tahiti. This supports tradition. Linguistic evidence confirms the Western Polynesian origins of the Marquesas.

SYMBOLS AND SENTIMENTS: CROSS-CULTURAL STUDIES IN SYMBOLISM

Joan Lewis (editor), Academic Press, London, New York and San Francisco, 1977. Pp. 300. Price \$16.65.

There are papers by Alfred Gell ("Magic, Perfume, Dream"); Gilbert Lewis ("A Mother's Brother to a Sister's Son"); Pamela Constantinides ("Ill at Ease and Sick at Heart: Symbolic Behaviour in a Sudanese Healing Cult"); Serge Larose ("The Meaning of Africa in Haitian Vodou"); Abner Cohen ("Symbolic Action and the Structure of the Self"); Charles Rycroft ("Is Freudian Symbolism a Myth"); Stanislav Grof ("The Implication of Psychedelic Research for Anthropology"); Vieda Skultans ("Moral Order and Mental Derangement"); Audrey Cantlie ("Aspects of Hindu Asceticism"); and Paul Hershman ("Virgin and Mother"). There is also an index.

Pamela Constantinides finds in the Sudan that "women do not evaluate themselves *vis-a-vis* men, but rather in relation to other women." Serge Larose's paper on Vodou is a thorough study of the subject. Stanislav Grof deals interestingly with psychedelic research, and with ESP phenomena comprehensible as "transpersonal experiences."

David Starkey has written a most interesting paper on "Representation Through Intimacy," with the sub-title "A Study in the Symbolism of Monarchy and Court in Early-Modern England." In this he discusses in particular the groomship of the stool in the English court of Tudor times, and its evolution to the Hanoverian period.

In Paul Hershman's "Virgin and Mother" essay, the author defends Leach's view that: "The social system has an underlying

order in which is something more than the mere categorization imposed by the [social] anthropologist upon his data."

CONTRIBUTIONS TO ANTHROPOLOGY: SELECTED PAPERS OF A. IRVING HALLOWELL

Introductions by Raymond D. Fogelson, Fred Eggan, Melford E. Sprio, George W. Stocking, Anthony F. C. Wallace and Wilcomb W. Washburn. University of Chicago Press, and at Buckingham Palace Road, London SW1W. Pp. 534. Price £18.00.

This is a collection of essays by Irving Hallowell (1892-1974), one of the more distinguished American anthropologists who made important contributions to our knowledge of the North American Indian cultures. The selection was largely made by Hallowell himself, but was brought together by Professor Fogelson after his death. This work is not just a compilation made to honor the memory of a deceased scholar; it contains much of value to modern anthropologists.

ETHNIC IDENTITY: CULTURAL CONTINUITIES AND CHANGE

Edited by George A. DeVos and Lola Romanucci-Ross. Mayfield Publishing Company, Palo Alto, California, 1975. Pp. 395. Price \$13.95.

This work contains contributions by various authors, such as George DeVos ("Role of Ethnicity in Social History"), George Devereux ("Ethnic Identity: Its Logical Foundations and Its Dysfunction"), Gerald Berreman ("Bazar Behavior: Social Identity and Social Interaction in Urban India"), Theodore Schwartz ("Cultural Totemism: Ethnic Identity Primitive and Modern"), Hsien Rin ("Synthesizing Mind in Chinese Ethno-Cultural Adjustment"), Geoffrey Gorer ("English Identity Over Time and Empire"), Margaret Mead ("Ethnicity and Anthropology in America"), Lola Romanucci-Ross ("Italian Ethnic Identity and its Transformations"), Gananath Obeyesekere

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The book has too many sections to review here, but the conclusion of the authors (p. 389) sets the tone: "Ultimately, ethnic identity is the unexpressed meaning of anthropology. Anthropologists intellectualize about human culture, yet they try to preserve, in their own modes of pursuing knowledge, the value of man's past, and so to assert, that without a consciousness of the past, the present becomes devoid of meaning."

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